

Aviation News

McGRAW-HILL PUBLISHING COMPANY, INC.

JULY 31, 1944



Testify at American Export Purchase Hearing: *Top airline officials were among witnesses as a Civil Aeronautics Board examiner took testimony in a Washington hearing on American Airlines' proposed acquisition of American Export Airlines. Left to right are A. N. Kemp, president of American Airlines; John E. Slater, executive vice-president of American Export, and Ralph S. Damon, vice-president of American.*

Pogue Body Urges Speedy Disposal of Large Planes

SWPA advisory group would clear field of big transports in 15 months after they have been declared surplus.....Page 7

AA Transport Merger May Force CAB to Clarify Policy

American Export acquisition hearing boils down to struggle over chosen instrument or free competition.....Page 34

GE Moves to Mass Production of JP Aircraft Turbines

Lack of materials necessary to stand intense heat and pressure remains major barrier; all important nations at work.....Page 11

Airport Users Urge Program for Expansion of Fields

Executive committee named at NAA-sponsored conference in Washington to guide Federal legislation on port development.....Page 9

Progress of Air Mission to Spain Rouses Optimism

Ryan returns to U. S. after "busy trip"; Stanton and Novinger to stay two weeks longer to study landing facilities.....Page 31a

DC-3 Reconversion Costs Average \$32,000 to \$40,000

Between 12,000 and 15,000 manhours reported required to restore planes returned by Army to airlines.....Page 25

KEN-RAD

Transmitting Tubes

FOR AIRBORNE EQUIPMENT



The transmitting tube plot of Ken-Rad does not face a severe post-war reconversion problem as the types now made for airborne equipment are ready for commercial service. Additional types will be made promptly to serve requirements. In the meantime our Aviation Division is prepared for peace while working for war.

4 Wires for your copy of "Forward Observer" do now complete figure of tube reference available

KEN-RAD

AVIATION DIVISION
OAKS FORD, KENTUCKY
TRAFFIC 11 HARRY STREET, NEW YORK

TRANSMITTING TUBES
CATHODE RAY TUBES
SPECIAL PURPOSE TUBES
RECEIVING TUBES
INCANDESCENT LAMPS
FLUORESCENT LAMPS

THE AVIATION NEWS

Washington Observer

UNITED AND FOREIGN ROUTES—W. A. Patterson's last statement last week that United Air Lines does not intend to file application for any foreign routes, even though it now is flying the Pacific regularly as an ATC contractor, is not being interpreted by the industry as a lack of interest in international post-war flying by UAL. It has been known for some time that United would like to organize an offshoot or subsidiary company, preferably teaming with other interests including a major steamship company like *Natona*, to fly internationally. The separate operation might be controlled by the parent United company, with minority stock held by one or more other transportation companies with world-wide experience in travel, overhauling and hotel and tour management. It is United's belief that no present domestic airline company will fly internationally, but that any such service will be flown by specially organized, separate subsidiaries or affiliates.

U S AID FOR SOUTH AMERICAN LINES—Impressive plans are already being carried out toward what may become a large-scale U. S. aid program to build up Latin-American national airline services. Many students from these countries are already in training in air schools here. These graduate pilots, mechanics and operations specialists will return as a core for local civilian air expansion. Typical is the case of Peru, whose officials have had various preliminary talks in Washington. In their discussions with CAA they showed interest in obtaining aid to select and translate regulations, textbooks, etc. Peru has nebulous plans for a large feeder airline system, possibly using Douglas U. S. technicians would be lent to set up airways, plan bases, and set up a network. The antiquated Panet Line planes are

out of the picture because of higher safety standards required for Andean flights, but the Panet company may be the nucleus for the organization. The Peruvian government would regulate the company but it would be financed by private capital, partly Peruvian, partly U. S. Plans have not crystallized as to specific routes or added mileage, required.

JP AHEAD OF SCHEDULE—Quality production of jet propulsion engine equipment announced by General Electric last week is convincing proof of recent reports by engineers that JP progress is ahead of schedule. There are many problems, but first, if any, such revolutionary improvements in aviation have given higher performance in so short a time. It is no secret that the 500 mph air speed mark has been reached with JP.

*

JP AND ROBOTS—The General Electric announcement should not be tied to the epidemic of JP-operated robot bombs. High-speed fighter aircraft is not the defense answer to pitiless craft. Once released, robot bombs are mindless in free flight, just as are artillery shells or aerial bombs. Shredding down such missiles simply isn't done. True, the robot bomb can be destroyed en route, but in general this is an inefficient and a futile defense. The answer is still the classic one—meet at the points of origin.

*

ROBOTS AND AIR FORCES—Far-seeing aviation observers think the robot bomb's development will have ultimately a very important effect on military aviation. There is little doubt that the next few years could bring improved long-range missiles, radio-controlled



Thunderbolts for U. S., Russia, Brazil and England at Republic's Farmingdale Plant



GI's ... by proxy

Whether it's busy dogging below zero in Alaska or one hundred and seventy in the sun at Iran, the technical representatives of Bell Aircraft's field service staff help keep thousands of B-29s flying—and fighting in the far corners of the world.

The first technical mission sent to Russia by an American manufacturer consisted of Bell Aircraft specialists and engineers. These men gave valuable technical information to the Red Air Force to assist their engineering officers and ground crews in servicing and maintaining the thousands of Bell fighter planes on the Eastern front. In return they brought back first-hand knowledge of Axis tactics in action which has aided us in producing even more effective air weapons.

There's in a dangerous life. They are civilian GI's who play an important part in helping the Army Air Forces and our Allies to keep 'em flying. Here in America, they serve nine continents of the Army Air Forces—living a soldier's life on the California desert or in the swamps of Florida—in order to learn how to work under actual war conditions. Some of these Bell Servicemen are now studying the new powerful fighter

planes coming from our Eighth Frontier Division. Some are giving their entire attention to the flexible machine gun mounts made by the Bell Ordnance Division. Others are taking a special course on America's first jet-propelled plane designed and built by Bell Aircraft—superstarliner as it was in the B-29 Super-fortresses of which Bell Aircraft is one of the producers in its brother plant at Marietta, Ga.

And when the new Bell helicopter becomes available for general use, the service department will add this latest Bell Aircraft development to its activities. © Bell Aircraft Corporation.

MAJOR AIRCRAFT MANUFACTURING COMPANY—EAST COAST INC.

BELL Aircraft

PACEMAKER OF AVIATION PROGRESS

Major Plants: Buffalo, New York; Marietta, Ga.; Allentown, Pa.; Chicago, Ill.; Dallas, Tex.; Fort Worth, Tex.; Glendale, Calif.; Los Angeles, Calif.; St. Louis, Mo.; Wichita, Kan.; and many others.

SEE "WAR BYRON AND OTHER VICTORIES"

VOLUME 2 • NUMBER 1

Aviation News

McGraw-Hill Publishing Co., Inc.

July 31, 1944

Pogue Subcommittee Urges Speedy Disposal of Large-Plane Surplus

SWPA advisory group would clear field of big transports in 15 months after they have been declared surplus; study follows general lines of Harvard survey.

A generally favorable reaction to the Surplus Aircraft Advisory Subcommittee report, which would clear the field of large planes in less than 15 months after they had been declared surplus, is anticipated by spokesmen for the industry.

In its general lines, the report of the aircraft subcommittee, headed by L. Welch Pogue, chairman of the Civil Aeronautics Board, follows that of the Harvard School of Business Administration, although it differs in some pertinent details. **Speed**—The essence of the report is speed in disposal. It followed by Surplus War Property Administrator W. L. Clayton and the head of the Aviation Division of the SWPA, Col. William R. Harding, insisted the aircraft would be transferred to "unabsorbed surplus" within four months, transport craft within nine months. Unabsorbed surplus would be held for a period of six months, after which it would be sold at central prices to schools, for experimental use or for memorials, and then scrapped.

Personal aircraft and components would have to be disposed of within a time limit of three years.

Transport Plane Convention—One significant difference between the subcommittee report and the Harvard report lies in the convention of transport planes. The Harvard report recommends that the original design manufacturer overhaul all such planes. The subcommittee recommends that transports be sold "as is" and that the purchaser have necessary overhaul, modification and refurbishing done wherever the buyer chooses. The subcommittee states that while the members believe the work should be done by the aircraft manufacturers, it is suggested that the work go to manufacturers as a result of "competition and competency"

rather than as the result of assignment. The subcommittee points out that the manufacturer should be able to do better work at a more economic price and would develop sales contacts and sharpen initiative in obtaining this work in a free competitive market.

Other significant conclusions of the subcommittee are:

During the period of short supply, the Surplus War Property Administrator should decide which airlines, domestic and foreign, should have precedence in receiving surplus transport aircraft. In general, the needs of American operations would be given first consideration, but international policy, economic and rehabilitative, and the establishment of a customer base for future markets demand a number to be given foreign operations even while domestic needs are being met.

Aircraft manufacturers should

act as agents for the government in the sale of transport planes, receiving reasonable fees. This is advocated to establish better government relationships. Foreign disposal negotiations should be with the ultimate user rather than the user's government.

Only a very few serviceable transport planes will be delivered surplus abroad, the subcommittee revealed it has been told.

Sales should be either outright for cash, through lease or a refundable installment plan. Domestic users should be given terms as favorable as those given foreign users.

The subcommittee rejects the Harvard report recommendation that prices of transports vary depending on the transportation use to which the plane will be put; pricing devaluation, the committee insists, should be uniform and approached from the point of view of airline operations.

Also rejected is the recommendation of other groups that a portion of lease funds be shared in error for purchase of a new American plane. Newly designed planes in the American market will force operators to retire transports at an early date, the subcommittee adds, and the plan in foreign operations would meet with resistance.



BOMB BAYS OF BOEING SUPERFORTRESS

Bomb bays have aft of the big midwing of the B-29 are one secret of the tremendous bomb load carried by the big ship. A special mechanism releases bombs alternately to maintain the plane's equilibrium on bombing runs. Small or large bombs or a combination of both may be carried. Exact capacity of the big ships has never been revealed.

ment as an effort to force American equipment on other nations to the detriment of their own manufacturers.

Lease-lease transports should revert to the United States unless disposed of by international agreements and should immediately be declared surplus.

Regular studies should be made of supply and demand factors and transports in excess of prospective demand should immediately be transferred to unabsorbed surplus.

Prompt disposal of personal-type aircraft is urged, the subcommittee pointing out that the earlier planes are available the greater the return to the government.

Small transports should be handled under transport policies while a transport plane shortage continues, but prices should be uniform in sale for transport or personal uses.

Sales of personal craft should be on an "as is" basis with individual CAA inspection after overhaul. Sales should be for cash and at such prices that the widest distribution



HELLCAT COMES BACK:

Hellicat pilot Eugene M. Bloch, shot up over Palau in the Pacific, started back for his carrier with his hydrostatic system gone and his propeller broken, a large hole in his right wing and his silencing snatched. He found his carrier, but stopped off to one side coming in, skimming off a time and the tail on a gun turret. With what was left of his ship he still made the landing and emerged with no other injuries than a few scratches.

Airport Users Urge Program for Expansion, Operation of Fields

Executive committee named at NAA-sponsored conference in Washington to guide Federal legislation on port development, seek uniformity in state and local laws and standard charges to various classes of users.

The National Aeronautic Association last week completed the first step in the country's first effort to organize the thinking of persons and agencies concerned with design, construction and use of airports.

Fifty-one organizations from aviation, industry, business, education and local and Federal government participated in the Joint Airport Users Conference at the Statler Hotel, Washington, July 24-25.

Closing the meetings, they voted the conference permanent status, and appointed an executive committee, whose initial endeavor will be to coordinate Federal legislation on airport expansion, try for uniformity in state and local airport legislation, and for facilities charges to various classes of users.

Land and Runways—The meetings just concluded dealt only with land and runways. Probably one

or more additional conferences will be called on airport buildings, lighting, equipment and services, and water and sewage.

Conferees agreed that design and distribution of landing facilities may be the most important factor in aviation, which in turn will profoundly affect life and development in this country. The task was taken seriously, opinion and criticism were heard around sharply, but with equanimity.

Nobody was authorized or expected to take executive action on any of these matters. It is hoped that clarified thinking, and in some cases agreement, will take the form of action on the part of law-making bodies, aviation groups and company management, and engineers and suppliers in airport construction.

Old Controversy Revived—The long-standing controversy over heavy municipal investments in

ports for airlines to the alleged disadvantage of non-scheduled operations, came up again, with no conclusions reached.

Particularly interesting was discussion of runways for landing planes, some speakers contending that special feeder planes should be designed to save terminal time by making brief approach turns and short runs on the ground, using short runways.

Proposal to use the term "airparks" for minor air fields was debated, some speakers contending such minor fields is entitled to at least one "airport"—its all terminal. Others argued that inclusion of recreation facilities in the term "airparks" will help sell the necessary bonds. All agreed that the term is suitable for secondary fields in any given locality.

Plan Salvage Test

The report of the Surplus Aircraft Advisory Subcommittee reveals that a salvage test will be conducted with a four-engine bomber soon to determine the cost in labor and time of reclaiming suitable components and re-pairing residual parts for scrap.

The subcommittee recommends that the Reconstruction Finance Corp. consider contracting with aircraft manufacturers whose contracts have been terminated as materially reduced in this reclamation work if the test proves it to be economically feasible.

It is pointed out that this method of salvaging surplus aircraft would serve to give employment during the period of readjustment and create an interim use for government-owned facilities.

AAF 37 Years Old

The Army Air Forces this week will observe its 37th anniversary. During the past year the Air Force completed the mighty Boeing B-30 Superfortress and procured a jet propulsor plane. It manned new and greater fire power—rockets and cannon that as far outgun the machine guns of the first World War as the planes of this war make museum pieces of the ships of that day.

Created in 1903—The Division of Aeronautics of the Signal Corps of the United States Army was created Aug. 1, 1903, four years after the Wright Brothers first flew at Kitty Hawk. The new branch of

Price Formula

The use of a C-47, completely overhauled, modified and refurbished, will be \$68,000 if the recommendations of the Surplus Aircraft Advisory Subcommittee are followed. The "as is" price to users should be fixed, the Pogue body urges, at a figure which, when it has added to it a reasonable estimate of the overhaul cost, would equal that figure.

The price is arrived at by using the formula of the Harvard report, based on parity value in airline use times the number of years in expected economic life. The value is based on a depreciation rate which airlines consider appropriate in the pre-war period.

Prices of airplanes having larger capacity, additional demands operating characteristics, and a longer estimated economic life, would be adjusted upward nearer the original cost of the aircraft.

The prices, the subcommittee states, are for use both over and under government and would ensure a wide distribution of transport aircraft for transport purposes. In the case of the C-47, the price is approximately one-half of that paid for DC-3s in the pre-war market.

bution and greatest use can be obtained as quickly as possible.

The War Training Service of the CAA should be used as the disposal organization for the personal planes.

Fixed prices, quantity discounts and commissions are recommended for personal planes—the main objective in this class plane being creation of a post-war market.

Training planes should be held from unabsorbed surplus for three years to permit schools to initiate flight training programs.

There will be such a large surplus of engines, propellers, instruments and other components that it may be impossible to sell used items. Original manufacturers or companies licensed by the manufacturer for the work should be given equipment on consignment and act as agent for the government. New equipment should be sold before money is spent in reconditioning old equipment. A fixed sales price of 75 percent of cost is recommended.

Flight training instruments should be sold for training purposes only at a price not less than 50 percent of cost.

Leasing powers of the CAA should be used to control a limited "appliance" market among civilians for combat craft.

Surplus Planes Net \$3,242,000 in 5 Mos.

Reconstruction Finance Corp. received \$3,242,000 for sale of surplus airplanes during the first five months of 1946, a newly released Office of War Information report reveals.

These sales, mostly in trainer planes, would represent an average of approximately \$1,200 a plane on the basis of the previously reported sale of \$,500 planes in the same period.

\$3,000,000 a Week—Sales of surplus aircraft and aircraft property now are at the rate of \$3,000,000 a week—this includes the excess inventories of the plane manufacturers and machinery no longer needed in some plants.

Other details of the OWI report largely substantiate previously reported data on the surplus planes problem, but it does bring out that the Army has reported to the Surplus War Property Administration that aircraft engines now used in some combat theaters are an emergency expedient and can be held upon only in a limited amount to keep surplus planes from rusting and deteriorating. Storage of planes now is largely outdoors at 36 strategically located fields.



Address Joint Airport Users: Three here were among the speakers at National Aeronautic Administration's two-day Joint Airport Users Conference in Washington last week. Left to right are William H. Engert, NAA president, John Groves, operations manager, Air Transport Association, and J. E. Sommers, Deputy Chief Aeronautics Administration.

the service consisted of one captain and two enlisted men. Today, the AAF comprises 3,900,000 officers and men and more than 75,000 planes, of which 34,000 are combat types. It took two years for the division to obtain delivery of its first plane. Today, hundreds come from plant factories each day.

WEST COAST REPORT

Industry Eyes Order On Post-War Tooling

Plane manufacturers look to Army for confirmation of program ending but on civilian production plans.

By SCHOLER BANGS

Executives of several major West Coast aircraft factories are preparing to talk openly of post-war plans following War Production Board orders authorizing American industry to begin tooling up for commercial manufacturing to a degree that will not interfere with present war production.

However, defense as is some of their plans, they will require even more substantial encouragement to accept the WPB indications that just around the corner they may see a green light for limited manufacture of civilian goods.

Army Sheds Awe.—Reaction of West Coast manufacturers as they are, the WPB orders came from a bubble place 3,000 miles away, and the Army tremors on "post-war talk."

Only a major manufacturer still follows the major lead and insists that his plant is giving no time to post-war planning and is engaged in unswerving all-out war production. That this factory has not been ordered with schedules is a fact. But it also is a fact that many months ago, long before victory was even in sight, it did not set up a post-war planning department.

Thirty production investigators are other planners who the state of things the company might make after the war, and only recently completed a detailed report to the company president. Participants in the research indicate the report was comprehensive on the extent to which the company might compete in fields other than aircraft.

Labor Factor.—In Army circles the reason given for opposition to post-war talk is that it will start



CARRIER WIND GAUGE:

Sufficient wind for safe landings must be registered on this anemometer before a pilot is authorized to land aboard the USS Charger, operating training carrier, aboard which American and British pilots practice carrier landings. The Charger, which operates in the Norfolk and Hampton Roads area, has chalked up more than 40,000 landings on her flight deck since sailing into the Chesapeake two years ago.

a quit-work landings and lead to labor shortages. Manufacturers have been unable to convince the Army that announcements of post-war plans will help to persuade workers to stay on the job.

PERSONAL PLANS.—Only a few manufacturers could believe that it is still in a "secret" that at various West Coast plants a goodly handful of four-engine transports have been outfitted as the personal planes of United Nations government leaders. They have been seen by airport thousands.

Military chiefs with power of censorship fear a public reaction to the spending of "taxpayer dollars" for luxurious transports that will never see combat. They do not reason that a majority of taxpayers might commend the effort of the military to provide a Chief Executive with transportation that will insure him the maximum of rest and minimum of distraction from critical duties on flights to global conferences.

Most famous of the "special" planes, completed as under construction, are the big Douglas outfit for President Roosevelt, and Winston Churchill's globe-punting Liberator "The Commando." Now in the last stages of overhaul on the West Coast. "The Comman-

do" has been polished until it shines like a new dollar, and probably will fly Churchill in state to peace conferences.

Beeches, Lockheeds To Be Sold by DPC

Small transports, still in Army depot, may go on sale in August or early September.

An undetermined number of Beech and Lockheed transports is expected to be placed on sale by the Defense Plant Corp. in about 30 days.

The small transports have not yet been released to the DPC from Army depots, and the total is being turned over for sale as surplus has not been disclosed, but DPC is making plans for their sale late in August or early in September. Some may be turned over to the Foreign Economic Administration for sale in other countries under the surplus program.

Surplus Plans Unchanged.—For instance, view-president of DPC, and last week that the surplus plan had not changed in the past month, and that new increments of surplus planes for sale were numbered only in hundreds, including gliders. As of July 1, an estimated 11,650 planes were in the hands of DPC for sale and approximately 2,000 had been sold, chiefly WTS trailers in the light plane category. Some special types are being sold as surplus.

Although Mr. Rosen again emphasized that no surplus ships had been sold to private purchasers (Aviation News, July 30), Mr. Rosen's remark that DPC expects to place some Army transports in the heavier categories on sale within the next 30 days, and that preliminary plans for the sale were now being drawn.

Those transports already have been surrendered to DPC from the Army training program, and about 6,000 will be available for sale in addition to the 3,650 lighter transports released from the WTS program. It is anticipated that training schools will be in the market for some of the surplus planes in the heavier category, although it remained doubtful that the full complement will find a market in this country. However, through various means it is expected that this portion of the potential surplus will find comparatively easy sale here and abroad, particularly in South America.

GE Moves Toward Mass Production Of New JP Aircraft Turbines

All important nations at work on developments, but lack of materials necessary to stand intense heat and pressure remain major barrier; jet engine has three-to-one thrust power advantage over conventional power plant; further gain seen.

Announcement by General Electric Co. that it will devote \$50,000 sq. ft. of plant space to production of jet propulsion aircraft turbines and that a "large export manufacturer" has been "approached" to go into quantity production at the limited development stage indicates satisfactory completion of certain current developments.

It is significant because it is an indication of actual achievement having important and lasting implications. It is not a hint of military desperation because it is obvious that existing conventional equipment is adequate for successful prosecution of the war.

It does not mean perfection of the jet engine, but the turbine is a basic though small element in a series of developments which loom large on the horizon of future aircraft power plant schemes.

Here to Stay.—Jet propulsion is here to stay. All of the world's aviation powers are busy with its development, and General Electric and Bell Aircraft Corp., the pioneers here, are not the only participants in the U. S.

Principles involved are well established. We are dealing with known forces and the roads to perfection are fairly obvious to experts.

Mass barrier is materials, but that has never stymied aviation for long. Already, considerable progress has been made despite limitations, and efficiencies will improve as materials are developed.

Stands as Materials.—The great amount of heat required to transform air into a propulsive force severely taxes the materials used to contain and direct these temperatures. Light alloys or other materials of reasonable strength and availability, capable of withstanding higher temperatures, will permit a more effective concentration and longer-time utilization of heat value of relatively simple fuels at a more efficient rate than at present. It should not be surprising if the ancient art of refractories were

called upon to help with the solution.

A comparable rate of fuel consumption with internal combustion engines is not to be expected in the thermal jet engine. This is an important consideration but does not represent a crippling handicap. It is important, of course, because the amount of fuel burned affects both weight and range.

Fuel Changes Likely.—It is likely that the form and composition of fuels will undergo transformation as this comparison advances.

But as for weight itself, the jet engine holds at least a three-to-one advantage over the conventional power plant when related to thrust power and that advantage is being to increase. The conventional power plant comprises a third of the total empty weight of an airplane and a reduction of that weight element by two-thirds is an appreciable payload advantage. A Guide to the Research—Cost of jet propulsion engines should become infinitely lower than conventional types, and maintenance cost should be very much less because of its relative simplicity. Absence of myriad accessories and instrumentation also accrues to the jet engine's advantage as an economic bonus.

AVIATION CALENDAR

- Aug. 10—International Aviation Meeting, National Aeronautics Association, New York.
- Aug. 11—National Aeronautics Association, New York.
- Aug. 12—National Aeronautics Association, New York.
- Aug. 13—National Aeronautics Association, New York.
- Aug. 14—National Aeronautics Association, New York.
- Aug. 15—National Aeronautics Association, New York.
- Aug. 16—National Aeronautics Association, New York.
- Aug. 17—National Aeronautics Association, New York.
- Aug. 18—National Aeronautics Association, New York.
- Aug. 19—National Aeronautics Association, New York.
- Aug. 20—National Aeronautics Association, New York.
- Aug. 21—National Aeronautics Association, New York.
- Aug. 22—National Aeronautics Association, New York.
- Aug. 23—National Aeronautics Association, New York.
- Aug. 24—National Aeronautics Association, New York.
- Aug. 25—National Aeronautics Association, New York.
- Aug. 26—National Aeronautics Association, New York.
- Aug. 27—National Aeronautics Association, New York.
- Aug. 28—National Aeronautics Association, New York.
- Aug. 29—National Aeronautics Association, New York.
- Aug. 30—National Aeronautics Association, New York.

Ultimately, the matter of relative efficiencies at various altitudes probably will be an academic consideration. Militarily, performance will dictate the choice of power plants, while in commercial economies will require adaptation of operating procedures to the most economical propulsion methods. It seems unlikely that there will be any satisfactory compromise in the form of jet-engine-propeller combinations. Aircraft will be designed to be propelled by either one or the other, depending on type of operations. Hybrids are seldom economically feasible in aviation.

T. E. Moodie Dies

Thomas Edward Moodie, 44, of Boston, executive vice-president of Aviation Engineering, Inc., and former Professor of Aeronautical Engineering at Georgia Tech, died in Boston. A native of Texas, Mr. Moodie held his B. S. at Massachusetts Institute of Technology and his master's at Georgia Tech. He was a member of the National Association of Aeronautical Engineers.



THUNDERBOLT MOUNT'S THREE AUXILIARY TANKS:

Recently-released photograph shows Republic's P-47 fighter-bomber with three extra gasoline tanks for endurance in extreme combat. Fuel from Europe inflatable fighters will accompany because all the way on shuttle runs across the continent.

Bendix Gives New Data on Helicopter

Brochure lists two-place, 165 hp. craft with main cruising speed of 100 mph.

Details of the Bendix helicopter are disclosed in a brochure issued by Bendix Helicopter, Inc., over the signature of Vincent Bendix, founder and one-time president of the aeronautical equipment company that bears his name. There is no connection between the two companies.

Although previous announcements (AVIATION NEWS, Feb. 26 and June 19) have indicated that engineering for various models was being conducted, the new brochure lists only one, a two-place, 165 hp. helicopter with a rated cruising speed of 100 mph. Earlier reports were that the two-place ship was being designed together with a 10-horsepower, seven-ton, 600 hp helicopter and a 20-horsepower, two-ton, 1,200 hp. design.

■ Tricycle Landing Gear—First sketches of the Bendix design showed a four-seat plane with tricycle landing gear. The present model carries post-noon-type gear. Plans for the manufacture and sale of various types of helicopters are being made, Bendix says.

There is no rear-axle-torque control propeller in the Bendix design. It is listed as having a useful load of 445 pounds, with maximum speed of 120 mph and cruising speed at 75 percent power of 105 mph.

■ Other Specifications—Vertical climb (minimum) 445 feet a minute; endurance at 75 percent power, 3.25 hours; engine speed, 3,100 rpm; rotor speed, 300 rpm; tip

speed, 340 mph; rotor diameter, 32 feet.

Bendix asserts in the brochure that with existing designs of the company, complete three-axis control is an accomplished fact. Attached to the under side of the vertically pitched rotor wings, he says, are propulsive blades, which can be operated in to give lift in any desired direction—forward, backward or laterally. These blades, he says, also provide complete control in roll, pitch or turn in hovering, climb or flight.

Higher forward speeds become possible with vibration or flapping because of the special propulsive system and rigid hub construction, Bendix asserts. Also claimed for the special propulsive system is the ease of a power lock on the wing maintaining automatic rotation for safe descent without engine power.

FEDERAL DIGEST

WPB Issues New Reconversion Orders

Measures designed to minimize duplication in event of sudden outbreak.

By MARY PAULINE PERRY

War Production Board has issued several new orders or reconversion orders and guidelines. The fractional horsepower electric motor industry advisory committee announced that the industry would be able to resume production of appliance motors within 60 days after military programs are cancelled after pointed out that specialized aircraft engines for the latest airplane models continue to absorb facilities which could be used for the appliance program.

■ **Procedure**—Arthur H. Benker, deputy executive vice-chairman of

the WPB, outlined the procedure by which the staff of the committee will handle outbreaks and other production adjustments as they arise.

There will be the least possible disruption of employment and the greatest utilization of resources. He said the staff would arrange for handling of cases in such a way as to advise the contractor and the workers before the public announcement is made.

■ **Petroleum Administration for War** has tightened control of high-octane aviation gasoline and its components. Under the new terms PAW controls all transfer within the petroleum industry of aviation-grade base stock, blending agents, and high octane aviation fuel.

■ **War Department** has awarded a contract for construction of buildings, material and roofs at the AAF in Grand Rapids, Alaska. CITE, Inc., estimated total \$245,000.

Another contract for \$1,544,000 has been awarded for construction of parking, housing and parking areas and all appurtenant work of Langley Field Station, Columbia, Va. **■ Ford** has received a contract for \$1,500,000 worth of land-based trucks and chassis for the Army. The contract is for 1,500 trucks and chassis for the Army. The contract is for 1,500 trucks and chassis for the Army. The contract is for 1,500 trucks and chassis for the Army.

Besler Steam Engine

The three photographs of a steam power plant for aircraft which appeared in Aviation News July 3, on page 11, depicted the 1905 development of William J. Besler of the Besler Corp. of Oakland, Calif. The engine incorrectly identified in the caption as "powered by Louis G. Tronky" The accompanying news story was correct. The editors regret this error.



Bendix Model G Helicopter. The detail sketches above show the counter-rotating rotor wing assemblies that mark change in the Bendix helicopter from



other versions so far announced. A useful load of 625 pounds is claimed for the ship, which is expected to have a cruising speed of 100 mph.

Future of Model 39 Up to Car Changes

Consolidated Value approaches looking for liberal and airworthiness requirements for airlines.

Consolidated Value's Model 39, the Liberator-derivative, has brought the controversial question of liberalizing government airworthiness regulations for scheduled airlines to the surface, because even with such streamlining changes already under way this four-engine transport will not meet current minimum requirements of CAA and CAB.

Several aircraft manufacturers feel that extensive changes should be made in airworthiness and performance requirements to take advantage of technical improvements in planes. Thibault and his staff, aviation agents, and construction changes are mentioned. Curtiss-Wright, Douglas and Boeing probably will encounter little difficulty in getting CAA approval of structural changes of their large military transports. Consolidated Value, however, built its model 39 on the gamble that sufficient changes in regulations will be made to permit it to fly on the airlines.

■ **Some Changes Likely**—Government officials do expect some changes, but all at this time they expect doubt that these will be major revisions, feeling that aerodynamic are now about as low as they should be.

Consolidated, in a statement for Aviation News, says the first two Model 39's are being applied. The second will fly within 30 days. A tentative Navy contract for a quantity of the Model 39 will not be forthcoming.

The company considers that "certification of the model 39 to the CAB for certification for commercial use will be watched with extreme interest since it does not concern is outmoded CAB regulations. In answering the Model 39 in April, Aviation News viewed the airplane as establishing a precedent in its incorporation of wing loading and stalling speed characteristics exceeding present limitations imposed by the civil air regulations."

■ **Based on Military Success**—Typical of the contention by some industry engineers that requirements should be liberalized to take advantage of improved aircraft is



B-18 USED IN RESCUE TRAINING

This venerable Douglas B-18 bomber, built in 1938 or 1939, and retired from active duty with the AAF, was used by the marine division of the AAF Training Command's Air-Sec Rescue School at Gulfport, Miss., in practice. But by bit, the derivative is being put in pieces as reserves are made from various parts of the ship.

Consolidated Value's point that "visions of miles of safe flight and countless takeoffs and landings of military Liberators provided a record that should precede over any set of theoretical regulations. The 39 uses Liberator components through out-wing, engine and landing gear—with exception of the fuselage. Since April the 39 has been under constant test flights, has weathered without major damage a forced landing when the nose wheel failed to lower properly on a shake-down trip. Federal officials point out, however, that military standards should not be compared to commercial, peace-time requirements.

4th Council Formed By Contract Schools

Organization of the Central Information Council, a fourth regional clearing house for activities and accomplishments of air training schools, sponsored by the Aeronautical Training Society, was revealed last week. It is composed of representatives of Army contract flying schools is the Central Flying Command.

Like those groups formed in the Western and Eastern Flying Training Commands, the new committee will study the possibilities for utilization of the schools when their Army training program is completed. Chairman of the Central Council

is Col Newton of Ranger Six, Odessa, Texas, J. B. Scripps, Harman Training Center, Dallas, Texas, was elected vice-chairman, and L. M. Fisher, Air Activities of Texas, Comanche, secretary.

Study Performance Of Future Planes

Aeronautical engineers at L. A. meeting see greater loads carried at higher speeds as result of constantly increased efficiency of aircraft.

Evidence of constantly of engineering attention to the development of aircraft structures that will carry increasingly heavy loads at advancing speeds made important the summer annual meeting of the Institute of Aeronautical Sciences in Los Angeles last week.

Papers read by Western Coast and eastern engineers showed a progression by engineering study far use of new engineering techniques necessary for development of massive post-war transport aircraft. About 400 engineers attended the sessions.

■ **Testing Methods Streamlined**—Emphasis upon "rigorous" testing methods was given in papers by C. J. Shapert and W. L. Howard, Lockheed Aircraft Corp. "Measurement of Manoeuvre Loads in Flight"—by Robert Rasmussen and Robert Scanzoni of Eastern Aircraft Division, General

Motors Corp., "Influence Coefficients in Stress and Vibration Analysis"—by Fred A. Haddison, Westinghouse Electric and Manufacturing Co., "Altitude Chamber Tests of Aircraft Electric Motors and Generators"—and by Robert J. Kuntler, Minneapolis-Moneywell Regulator Company, "Use of a Pressman Automatic Pilot in Recording Aircraft Performance Data."

Unusual interest was shown, too, in a thermodynamic paper bordering on effects that may be anticipated in the development of the gas turbine engine. That is, a paper, using as foundation a discussion of thermodynamics of the laminar boundary layer of engine cylinders, was the presentation of Arthur N. Tifford, Lockheed Aircraft Corp.

► **Aerodynamic Balance**—The long study of aerodynamic balancing of control surfaces, which has led to elimination of hydraulic boosts to supplement controls in large aircraft, was given for the first time by L. E. Root, of Douglas Aircraft Co.

Extreme importance was attached to the paper of R. M. Head, Lockheed Aircraft Corp., giving a positive method for determining the altimeter lag experienced in testing modern aircraft of high climb and diving speeds. In support of his offering of lag curves that may be applied to check the readings of given altimeter systems in particular aircraft, he outlined in detail equations used to develop lag curves.

Chairmen of the session, and co-chairmen, were outstanding West Coast engineers: Clark N. Milliken, California Institute of Technology; J. Richard Goldstein, Douglas Aircraft Co.; A. L. Klein, Douglas; E. C. Wells, chief engi-

neer, Boeing Aircraft Co.; Elliott G. Reid, Stanford University; E. J. Hinkley, North American Aviation, Inc.; E. G. Storer, Consolidated Vultee Aircraft Corp.; and William R. Sears, Northrop Aircraft Corp.

New Helicopter Tested on Coast

Forward speed of 100 mph, and cruising rate of 75-80 claimed by 19-year-old designer and builder, Stanley Hiller, Jr.

Secrecy surrounding flight tests held at Berkeley, Calif., of what the builders describe as the West Coast's first successful helicopter, was broken last week after two months of experimental flights.

The new rotor craft has a 12-foot tubular steel and fabric fuselage, carries a 90 hp. Franklin engine, is surrounded by superimposed counter-rotating two-blade rotors of 24-foot diameter, and is reported to have developed forward speeds of 100 mph and 75-80 mph cruising.

► **Designed by 18-Year Old**—Designer and builder of the new "copier" is 19-year old Stanley Hiller, Jr., associated with his father in the dissolving firm of Hiller Industries.

Control of the Hiller helicopter is reported to be easy (no torque rotor is required on the tail) and the inventor claims that a novice can be trained to fly it after two hours of instruction.

► **No Vibration**—An achievement of major importance reported by Hiller is the absence of vibration throughout all conditions of flight.

Military cooperation received in building the craft over a period of three years prevents him from making public design details of his rotor and control, Hiller said.

► **Alonso Test—Berlet** "Potency, chief of flight engineering, Civil Aeronautics Administration, South Region, was scheduled to fly the helicopter during the week for a test of an "XK" experimental license, as a week-end public demonstration was to follow.

Readiness of University of California to give Hiller the use of the University's stadium as a testing ground accounts for the inventor's success in keeping secret previous rotor flights, which were held at altitudes of less than 100 feet. Hiller expects his "copier" to reach an altitude of 6,000 feet in future test flights.

CAA Plans Lab for Engine Fire Study

Facilities expected to be set up by Aircraft Development Section at test station in Indianapolis.

New test laboratories for study of aircraft engine fires will accelerate research being conducted by the Aircraft Development Section of Civil Aeronautics Administration. Money already has been obligated for facilities which probably will be set at the CAA's test station at Indianapolis.

Proposed is a separate building for power plant fire tests, with a 3,000 hp. motor and 4-bladed 18 ft. 4 in. propeller creating an air blast of at least 165 mph in a separate test section, incorporating a powerplant and wing section and modern recording instruments.

► **Design Changes**—In the past four years Douglas DC-3, Curtiss-Wright C-46-60 and West V38-37 installations have been duly fire tested in laboratories at the National Bureau of Standards under direction of A. L. Morse, chief of the CAA section. Objectives have been to determine criteria for design of fire-resistant installations in future planes and to develop fire extinguishing systems for existing ships.

Basic investigations were made in fire resistance of materials, fire sources, fire detection and fire extinguishing. Results have been analyzed and condensed in Technical Development Note No. 31, used by both AAF and CAA as basis for specifications for fire protection.

► **Fire Resistant Fabric**—The West tests showed little is gained by proving engine fire protection for fabric-covered planes unless such fabric can be made fire-resistant. Accordingly, Bureau of Standards will attempt to provide a fire-resistant coating for doped fabric aircraft surfaces.

The fire test program was recently expanded to develop sensitive smoke detectors in aircraft cargo compartments to give rapid warning of fires, without giving false alarms.

Proposed facilities will be used to test auxiliary engine installations during the way and to coordinate with civil installations afterward, with equipment suitable for newer, larger aircooled radial, liquid and aircooled inline engines, and Diesels.



NORTH AMERICAN MITCHELL—one of the world's best attack bombers. Performance of this outstanding plane with its ducty

boost, head, 73 in. radius and heavy caliber machine guns has proved a surprise in New and Japan on land and sea



PESCO HYDRAULIC RELIEF VALVE—MODEL 1 V-121

NEW PESCO HYDRAULIC RELIEF VALVE. Now a relief valve that meets the rigid AAF waterpump requirements. Precision-built throughout, it features simplicity of design with a minimum number of parts. Tests prove high operating efficiency through a temperature range of -65° F. to +160° F. Now available in accordance with AN specifications. Complete details will be sent upon request. Also ask for the new book, "Pressurized Power and Controlled Flow by PESCO." Write, PESCO Products Company, 11610 Euclid Avenue, Cleveland 6, Ohio (Division Borg-Warner).

For Aircraft Hydraulics, Fuel Pumps, Air Pumps, Selected Accessories

PERFORMANCE POINTS TO **Pesco** FIRST

Landgraf Tests

Los Angeles will be the scene of tests of another West Coast helicopter, that of Landgraf Helicopter Co., during the next month.

The "topper" design details of which were given by Aviation News July 3, has claimed serious-wide interest among engineers of rotating wing craft and will demonstrate the first application of previously actual methods of directional control and distribution of power to three concentrated rotors that mesh on a horizontal plane.



For War Ends—As Plans and Its Hope

Bee-lines to Berlin

A straight line—miles straight—is one of the hardest things in the world to draw. Yet thousands of mathematically straight lines are necessary in the building of a big airplane like the Boeing Flying Fortress and the B-29 Superfortress.

The master layout drawings for every part of a bomber must be made on flat sheets of landscape steel. To ensure the accuracy of the finished drawing, the metal is first scribed with intersecting reference lines like those on a geometric graph paper. And the lines must cross each other in perfect 90-degree angles, without deviating as much as 1/100th of an inch.

Until recently, this was a slow and laborious job. Draftsmen speckled across the big tables hour after hour, ruling in reference lines with straight-edges. But the airplane revolutionaries—even the experience of metal created by the men's best—might save their efforts. Drawing the grid lines on master layouts for the fuselage and bulkheads of one model alone consumed 1500 hours.

Boeing engineers determined to change the standard. They built the "Grid Machine" shown above—a simple, ingeniously accurate device that draws a dense parallel straight line while you watch. It never makes a mistake. And

it has already saved thousands of price-line hours between blueprint and building process. Today the work is done in less than a tenth of the former time.

All through the drawing phase are other examples of ingenuity and skill applied to the task of building more airplanes faster and more economically—speeding the production that carries the distance to victory.

When the war is won, Boeing's abilities in design, engineering and manufacturing will again be applied to peacetime products. You can be sure of any such product... if it's "Buck by Boeing" it's bound to be good.

BOEING

Specialized Depots Aid ASC Activity

One-place warehousing speeds up shipments of replacement parts to world's battlefront bases.

The specialized depot system of the AAF Air Service Command, whereby one depot handles the servicing and part replacement of only one type of plane or only one class of supply, has been largely responsible for the fine record that has been established by the ASC, in the opinion of Maj. Gen. W. H. Frank, who until recently commanded that branch of the AAF. General Frank now is serving as a member of the Army Board investigating Pearl Harbor.

The 110th AAF Specialized Depot, at Flushing, Long Island, barely more than a year old, has been called an outstanding example of the specialized program. Most parts for P-47 Thunderbolt fighting aircraft are received from the manufacturer, sorted and stored, and kept available for immediate shipment.

Shipments—These vary greatly in size, some requisitions being for one or two parts while others may run as high as 100 parts, 20 items to the page and sometimes a thousand different parts in one item.

With the exception of the officers in charge, all the work is handled by civilian employees. In this respect the depot is unusual in every phase of the servicing operation: budget and fiscal control, stock records, receiving, inspecting and warehousing, maintenance repair, contract liaison, engineering, and shipping by rail, truck or air freight.

Well Equipped—The depot is well



Maj. Gen. W. H. Frank

equipped with modern material-handling equipment. Original shipments of parts from the plant manufacturers range from nuts and bolts to fuselage sections and wing assemblies. These, depending on use and demand, are packed in large cases for quantity shipment or sorted into bins for rapid filling of requisitions calling for single parts. By a carefully coordinated system, shipments ranging from small packages of a few parts to huge packing cases or crates are routed daily to the war fronts.

Close to Source—One important feature of the specialized depot plan is the location of each unit close to its source of supply. This has cut down materially on march cross-hauling and on long distance primary shipping which so often resulted in re-shipment over much the same route for final dispatch to the fighting fronts.

The ASC, with a civilian personnel of 100,000 throughout the

country, handled 651,000 requisitions during May, 1944, any one of which may have covered thousands of parts needed for plane maintenance at some distant air base. It has been estimated that suspension of ASC activities would cause every plane in the AAF to be grounded within seven days.

Britton Advanced

Mason Britton, director of the Machine Tool Division of the Surplus War Property Administration, has been named assistant administrator and hereafter will have general supervision of disposal of all types of surplus property for which Reconstruction Finance Corp. is disponent agency. Among his responsibilities will be supervision of disposal of surplus industrial plants, aircraft, machine tools and industrial equipment, chemicals, metals and minerals, and other capital and production goods.

Mr. Britton, a director of McGraw-Hill Publishing Co., since it was formed and a vice president since 1922, resigned July 1 to join the SWPA.

Safety Record Cut

Safety records of the Army Air Forces, based on percentage of accidents per 100,000 hours of flying, showed a decrease of 20 per cent in all types of accidents for the first five months this year, measured against the same period last year.

Training accidents, the AAF said, were reduced by 28.5 per cent. Rate of all fatal accidents is shared by the AAF at 37.5 per cent less, and rate of fatal training accidents 46 per cent less.



ASC Stock Room: Photo at left shows section of warehouse at 271st AAF Specialized Depot, where small P-47 parts are stored, ready for shipment to

bases all over the world. At right are shown P-47 wing sections stored in one of the depot's large warehouses.



THUNDERBOLTING THE GATES

In a matter of seconds, this Thunderbolt pilot will plant two ball-tan bombs inside the throat of that coastal island—bolting the gate against enemy reinforcements.

This real-life Thunderbolt "thunderbolting" action as today in action as an all latest, powerful potential precision "unit" that paralyzes enemy movement by blinding bridges, wireless and wireless enemy miles behind the lines. With its eight 50-caliber machine guns, the Thunderbolt has also proved highly efficient at assembling ground targets—adding locomotives, troop trains, fuel tanks, ships and anything else that impedes our march to Berlin and Tokyo.

Then, you say it, in a fit cry from the high altitude bomber-excess pit for which Republic Thunderbolts were originally designed and in which they are still heavily engaged. But *Army Air Force* pilots, some of the plane's versatility, evaded techniques by which it fights as effectively and innocently on the "deck" as at seven miles high.

Thunderbolt pilots are in much better the enemy wherever they find him—high or low, air or far.

Republic Aviation Corporation, Farmingdale, Long Island, N. Y., and Brewster, Inc.

Republic finds in war power to place in peace.

"DECK" WORK!

In 30 days, a single Thunderbolt group operating at low altitudes—on the deck—accomplished the following tasks (from a *War Digest* unit report):

Our enemy and their in 201 planes destroyed six targets, six railroad bridges, 170 railroad cars. Six 200 more targets after. Five at 17 are missing. Sixty destroyed in the town and high-altitude war. Several first attacks, five, three targets, four targets. Six 14 bombers and were from after. Destroyed 11 enemy planes in the ground. Sixty two targets, five captured, one landing craft.



THE AIR WAR

New Planes Stress Long Range To Carry War to Jap Homeland

Super-bombers, fighters and trampolines to meet revised tactics necessary in Pacific warfare after collapse of Germany, which is regarded by commentators as possible by Christmas.

As the war in Europe heads up toward a climax by late Summer, with a better than 50-50 chance of its conclusion before Christmas, a little tactical adjustment by General Arnold in his press conference ten weeks ago assumes great interest and importance. He said that the movement into the Pacific is going to be a "terrific job," with staggering problems of logistics, that aircraft needs are not the same as those in Europe, and that training needs of these problems is insurmountable, and that "all will be solved before the movement begins."

It may be safely assumed that by now the detailed planning in the fields of transportation, aircraft production and pilot and crew training is well in hand. By putting together some recent straws in the wind, an indication of the trend in airplane types and models may be seen.

▶ The Need of Range—To deliver

meaning blows at the aircraft, shipbuilding, synthetic oil and hydro-electric plants, etc., located on Japan's main islands of Kyushu and Honshu, long-range super-bombers capable of carrying substantial loads of high explosives and incendiaries from bases deep in China and from the Marianas 1,500 miles away will be required. It is for this reason that the comments of Aircraft Production Board's Charles E. Wilson on B-29 production at his monthly conference are noted with the keenest of interest.

So far this key item for the Pacific-Asian air war has kept up to schedule. Boeing (Wichita) is still carrying the ball, but Boeing's Boeing plant, Bell (Marquette) and Martin (Omaha) are now in production, as Boeing, Seattle tapes off on B-17Gs, it will swing into production of parts and subassemblies for B-29's to be assembled at Russia. Fisher Body, Cleveland, and the old B-18 team of Hudson-

DeSoto-Goodyear (for Martin, Omaha) are among important producers of B-39 subassemblies. It is no secret in the industry, as evidenced by Tokyo radio's definite mention of the B-32 as a long-range bomber to be based in China, that Boeing's B-29 will eventually find a stakeholder in a very long range bomber by Consolidated, concerning which several references were made in the press during 1943. Properly enough, as details as to production status, performance, time and place of operation, etc., have been released. It is understood that it is roughly the equivalent of the Boeing Superfortress and that it will be produced at Consolidated's San Diego and Ft. Worth facilities.

▶ Medium-Range Bombers—It goes without saying that many important tasks can be performed by Liberators based in the China-Burma-India theater, Central and Southwest Pacific against somewhat shorter ranged military objectives, particularly shipping, Japan's most critical item. Improved P. and W. engines (B-149, new series), plus modifications in armament and other new equipment, will make the B-34 an even greater weapon than hitherto.

Production will continue at Willow Run, Consolidated (FW) and North American, Dallas. Not should the B-17, which carried the ball in the early Pacific air war against terrific odds, be ruled out of forthcoming operations. This pioneer and prince of the four-engine bombers, probably the outstanding combat plane of the war,



PLASTIC RAINCOATS SEAL PLANES AGAINST SALT AIR:

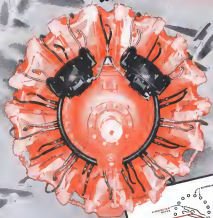
Photo at left shows a Mustang, prepared and with heavy rubber bags cover nose and tail, being loaded on a barge prior to transfer to a cargo ship. At right a P-47 Thunderbolt is being given a coating of spray-

but to prevent it from damaging salt spray during shipment overseas on the open deck of a freighter. All openings are first carefully taped, then the plane is sprayed.

REPUBLIC AVIATION

CORPORATION
Specialists in High-Speed, High-Altitude Aircraft

...TOOK AWAY ONE and DOUBLED



Operating at one-half crank-shaft speed, and having no gears other than the drive gear, the magneto-distributor unit of the G-E high-tension ignition system is long-lived. Electrodes are made of moisture-proof ceramic. The plastic used has high tracking resistance.

Buy all the BONDS you can—and keep all you buy



Simplified circuit diagram of magneto

the MARGIN of SAFETY

New G-E high-tension ignition system reduces number of units from three to two—gives the added protection of two magnetos—and doesn't require supercharging

● Skilled pilots who've craned balanced planes back across the Channel warmly praise the cooler "braving power" of American aircraft. One thing now contributing to this status is the G-E high-tension ignition system, in which the functions of magneto and distributor have been combined into a single, integral unit.

Two of these units replace the three—one magneto and two distributors—found in most conventional systems. Since each magneto is capable of keeping all cylinders firing, both must be put out of action before the engine quits.

SIMPLIFIED MAINTENANCE

From the ground crew's standpoint, this reduction in the number of units to be serviced is also important. So is the fact that either of the two self-con-

tained, interchangeable magneto-distributors can be detached without removing other parts of the system.

FLIES HIGH WITHOUT SUPERCHARGING

Ample clearances in the magneto and solid, though flexible, impregnation of the harness eliminate the need for supercharging at high altitudes. And—the simplified design of the entire system facilitates effective radio-static shielding.

This high-tension ignition system is one of several G-E systems which give aircraft manufacturers substantial savings in engineering, materials and assembly time. We'll gladly consult with you on the possibilities of adapting one of these pre-engineered systems—or of designing something entirely new—to fit the projects you are planning. Just call the G-E office near you: General Electric Co., Schenectady 5, N. Y.



Quick inspection of the magneto-distributor can readily be made on the engine. The entire system is designed for ease of installation, disassembly, inspection and repair. It is shown here installed on the Pratt and Whitney Aircraft engine of Republic's Thunderbolt (P-47).



PRECISION PRODUCTS
AND
ENGINEERED SYSTEMS
FOR AIRCRAFT

GENERAL  ELECTRIC

will continue in production at Douglas (Long Beach) and Lockheed.

Short-Range Bombers—The eminently successful B-25 Mitchell, one of the most potent anti-shipping and anti-airfield weapons now in the air, will undoubtedly be continued. The shift of all B-25 production (including the 18-gun and cannon carrying B-24D) and the B-24D straight bomber version) to Kansas City is a matter of concentration for production efficiency rather than an indication of tapering off on this bomber, at least for the present. Further improved models, with new engines, may give the B-25 a new lease of life. On the other hand despite its outstanding success with the South (Indochina) Air Force in Europe and good record in Italy, it is doubtful if the Martin B-26 (B-26G in the latest model) will see service in Asia or the Pacific. The new Douglas B-26 (A-26) light bomber has not been announced as in action in any theater as yet; it may see some service in Europe, and if it lives up to its expectations it should find a wide scope of activity in the air war against Japan. The A-26, after three years of successful and widely diversified activity with the RAF, the AAF and the Red Air Force, has been announced as definitely on the way out, finishing with the heavily armed A-26-35. A new light model and a smaller derivative of the A-26-35 with bomber nose.

Long-Range Fighters—The long-range Lightning (P-38) has been doing a stable job in General Kennedy's Far Eastern Air Force (New Guinea). Leading-edge wing tanks, otherwise increased fuel capacity, plus bigger drop tanks given the versatile fighter and fighter-bomber a radius of action of 700 miles. For overwater escort missions, likely to increase in the hope to Halmahera, the Philippines and beyond, the second engine is a highly prized feature. As the logistical problem in China represents a situation it may be expected that the P-38 will find a more extended use in the Fourteenth Air Force.

The single-engine Mustang (P-51D) with its lighter weight, clean lines, better-dive performance and built-in baggage has an even longer range than the Lightning, and is in operation in the CBI as a fighter and dive bomber. This airplane may well emerge as the top fighter of the war, and will hardly be dropped out of the Atlantic-Pacific planning. The newest Thunderbolt



SUPERFORTRESS' EYE

Giant bombers being planned abroad B-29 is India before the drop over the hump to the tail-off base in China prior to attack on Japan's naval center of Yawton

(P-47D-25) has proved a most powerful tactical weapon in Europe, and has done an acceptable job in New Guinea. If there is to be long-range land fighting in China, in addition to heavy blows and blockade by sea and air, it is quite likely that the Thunderbolt, with further improvements, will find an important role in the first attack of Japan.

Other Types—The P-39 is running out, and P-49 is running out (at last, after a solid record of achievement on most world fronts). The P-63 Kingcobra, as General Arnold has indicated, will, among other uses, be supplied to the Russians for use in their reorganized drive to Berlin. The P-61 Black Widow will become the standard night fighter of the AAF and will be used against the Jap air force.

As for bombers, from-the-ground-up long-range fighters (not adaptations of present standard models), escort fighters with 1,200-1,300 mile radius of action, the picture is not so clear. Reports have it that two or three of this class are in the works, in various stages of development, one at least to be powered by the B-29-engine Allison. It would be safer to reserve judgment on this for the present; if single-engine, a round trip of 2,000 to 3,000 miles is a lot of flying and lighting for one pilot, if not, will there be sufficient in performance to carry out the required job against notoriously agile Jap fighters?

Transports—To speed up the "tagging" logistical problem referred to by General Arnold, ever increasing fleets of air transports are being thrust into the picture. First of all is the brand and true Douglas C-47 (commercial DC-3, Navy C-47, commercial C-54, Navy C-54), a win-winning airplane not to be overlooked when the final score is tallied up, plus the heavy twin-engine Curtiss C-46 Commando, backbone of present over-the-hump operations.

Add to these the 32-ton 4-engine long-range Douglas C-54 Skyraider (Army C-54), the Liberator (Army C-54) and the variants at Lockheed Constellation (C-59). Democratic Naval transports include Martin Mariners (PBM-3), newer versions with larger engines on the way, consolidated Constellation (PRV) and Martin Mars (JRM-3). The Curtiss and Douglas transports are in heavy production in several factories.

Navy Combat Types—The fighting planes of the fleet present a much simpler problem. The scrapyard Douglas torpedo bomber (SB2C) has gone out of production at last, replaced by the more powerful Curtiss Hellcat (SB2C). Army's A-26 being a land-based version mostly used by the Marines. Douglas has a more powerful dive-bomber in the mail, which may see the light of day in time for Pacific action. Grumman's Avenger torpedo bomber (TBF) will "take care" of any Jap naval vessels or shipping which may venture within range. Navy versions of the Mitchell (PB1-J1) and the British Ventura (Army B-24, Navy PB1-J1 and B-24), both fast and heavily armed, will meet all requirements for raiders, weight, armor, bombs, and the old standby Catalina (PRV-5) for utility, and the long-range Navy Liberator (PB4Y-1 and 2) for far-reaching eyes and speedy striking power, and to complete the bomber and patrol picture.

Add to these the new models of Corsair and Hellcat fighters and the latest new two-engine Grumman F7F, greatly improved version of the ill-fated F5F Skyrocket, and we have a well-balanced navy team of aircraft capable of delivering a tremendous punch.

Other models, both of Army and Navy Air Forces, now under the horizon, may appear before long, but there is sufficient in performance to carry out the required job against notoriously agile Jap fighters.

NAVIGATION

PERSONNEL

William H. Miller, operations manager for American Airlines, has been elected assistant vice-president, operations and W. G. Lippincott, general traffic manager, has been



Miller

Lippincott

elected assistant vice-president, traffic. Both Miller and Lippincott have been associated with American Airlines since its organization in American Airways in 1934, and prior to that they were associated with its predecessor companies.

In addition American announced election of four regional vice-presidents. The new offices are: Alvin B. Jones, Jr., western region, Los Angeles; M. D. Miller, southern region, Dallas and Fort Worth; L. W. King, central region, Chicago; and W. M. Bane, New England region, Boston. These new offices combine American Airlines Traffic Department with the work of route development for the company. The four regional vice-presidents are former American employees.

Albert F. Bessan Lopez, former chief of the Aeronautical National division of the Air Corps, is now chief of the Air Corps, Air Transport Command. Major Joyce (re-elected) will be in the center of the country which trains Army and Navy pilots. Major Joyce will be in the center of the country which trains Army and Navy pilots. Major Joyce will be in the center of the country which trains Army and Navy pilots.

Thomas T. Grimes, district manager of TACA Airlines in Panama, is a New York City.

William Stephenson has been appointed chief director of the recently organized Post-War Small Business Chief Commissioner of the American Business Administration. He has been chief of the Small Business Unit of the Bureau of Foreign and Domestic

Commerce, U. S. Department of Commerce, since 1945, and more recently in charge of the Management and Finance section.

Arthur Pearson of Hill and Knowlton has been appointed acting associate executive for the Administrative Chamber of Commerce. Mrs. Elvington, who has been granted a three-month leave of absence from the East Coast Aircraft War Production Council, will serve in a special consulting capacity at the Chamber. Mrs. Rose Mosler will continue on the Hill and Knowlton staff with special assignment to the Personal Aircraft Council.

Mrs. Thelma South (shown right) succeeds Mrs. Mary S. Jackson as director of consulting for Consolidated Value Aircraft Corp. She heads various consulting activities for the Consolidated Value Aircraft Corp. Formerly executive vice-president of the company, Mrs. South was with Convair since 1942. Mrs. Jackson resigned to return to her business which she left in 1942 to direct Convair consulting.

Major Clayton H. Jones, United States Army, has been appointed chief pilot of the India-China Wing Air Transport Command. Major Joyce (re-elected) will be in the center of the country which trains Army and Navy pilots. Major Joyce will be in the center of the country which trains Army and Navy pilots.

Major Joyce will be in the center of the country which trains Army and Navy pilots. Major Joyce will be in the center of the country which trains Army and Navy pilots. Major Joyce will be in the center of the country which trains Army and Navy pilots.

John Sandick will become district traffic manager for United Air Lines in Portland Ore, replacing W. E. Thayer, who is being promoted to a position in the east.

Reg. Gen. Ray L. Owen has been ap-



GETS LEGION OF MERIT

Gen. Gen. Thomsen S. Hensley, Jr., was awarded the Legion of Merit for exceptionally meritorious conduct while serving with the Air Staff in Washington. Gen. Gen. George E. Strimling, who was then chief of the air staff, made the award to his former assistant chief of air staff in charge of supplies. At present both are in the Christ-Harmon-India theater.

pointed Deputy Chief of Air Staff, replacing Brig. Gen. William R. Hall. Just prior to returning to this country General Owens was deputy commander and commander of the Thirteenth Air Force, and then commander of the First Island Command.

J. H. Miller, chief of the aircraft subcommittee of the Bendix Products Division at South Bend for the past 10 years, died recently, following a brief illness. He joined the Bendix Corporation in 1927 as chief engineer of the aircraft division and remained there until his death in 1944.

Monroe Kass has been appointed chief of the Bendix Aircraft Company to replace William P. Kass, who recently resigned. William P. Kass will have charge of the selection, training and supervising of all Bendix air hardware. The Bendix Aircraft Company is now an air transport and for the last four years has worked under the direction and training of Bill P. Kass. During his service the company has done more than a half a million miles on every road of the company.

WHY THE GIANT CONSTELLATION[®] RELIES ON GOODYEAR[®] *Tires Tubes Wheels Brakes*



BIGGEST and fastest transports in operational duty today are TWA's fleet of giant Lockheed-built Constellations, now going into military service with the Army Air Forces. Like so many other big ships, these 40-ton giants have 100% Goodyear equipment on their main landing gear. The stalwart dual tires are 17.00-20 Goodyear Grooved All-Weather Intermediates with Goodyear tubes. The double brakes are time-proved Goodyear Hydraulic Disc Brakes, famed for

velvet-smooth, non-fading action—mounted in Goodyear cast magnesium-alloy wheels. Long experience proves this all-star line-up guarantees utmost efficiency, dependability and safety in landing-gear operation! Pioneer builder of airplane tires since 1909, Goodyear today produces the most complete, modern line of tires, tubes, wheels and brakes for every type of aircraft—from helicopters and light trainers to the greatest leviathans of the air, now in service or in prospect.

(204) Weather-Resistant • In • The Goodyear Tire & Rubber Company

BUY WAR BONDS — BUY FOR KEEPS



THERE'S A GOODYEAR TIRE FOR EVERY NEED

SWITCH CONTROLS	LOW PROFILE
HIGH PRESSURE	ICE-GRIP
LOW PRESSURE	HELICOPTER
AIRWHEEL	ACCURATE ROAD
(extra low pressure)	STEERING GEAR

Most types available with choice of smooth tread, channel tread or the famous Goodyear All-Weather non-skid tread.



PERFECTING TOMORROW'S
TIRES—TODAY!

Looking toward the future, Goodyear operates the largest privately owned airplane tire and brake manufacturing machine in the United States. Capable of creating 50,000,000 foot-pounds of energy, it is used in developing equipment for tomorrow's super speeds.



ARRING YOUR PROBLEMS
TO HEADQUARTERS

Included by the measure of the finest research laboratory in the industry, and more than 36 years' experience in developing airplane tires, tubes, wheels, brakes and other accessories, Goodyear engineers are ready to help you in working out any application. Address: Goodyear, Akron, Ohio. Dept. 16, Ohio or Los Angeles 34, California.

Shorewood E. Gub has been appointed district traffic manager for Northwest Airlines in Portland, Ore., where NWA intends to restore service late in the year. Gub, who has been with NWA for 18 years, has been district traffic manager in Minneapolis. At one time he was chairman of the Minneapolis Junior Association of Commerce aviation executive and has been in aviation since 1926 when he became involved with an aviation school operated by General Aviation.

Robert L. Minick, formerly assistant to the chief of the Airway Traffic Control branch of the CAA, has been appointed assistant manager in charge of operations of the Washington National Airport to replace Earl Sandberg, who resigned to join Fairchild at Hagerstown. Minick joined CAA in 1967 as assistant airport engineer in New York, having served six years as assistant manager of Bryn Mawr Airport. He was formerly with American Airlines.

E. O. Leder has been named general manager of the Airplane Maintenance and Supply Corp., in addition to his duties as secretary-treasurer. He takes over the duties of general manager from Earl Sandberg, president of the corporation, who continues as chairman of the organization.

Cok John S. Allard, Curtiss-Wright vice president in military leave, has been awarded the Legion of Merit for "exceptionally meritorious conduct in the performance of outstanding services." He is the new chief of staff of the Eighth Air Force and received his award for work to sustain staff of staff of the new 12th Air Force in 1963 and later as deputy chief of the 12th Bomber Command during the North Atlantic campaign.

Big Gus, William J. Wilcox has been detached from the Marine Fleet Air, West Coast, and assigned to duty overseas.

THE NEWS VIEWS—



Charles F. Dwyer

Charles F. Dwyer, recently respected chief of the Flight Engineering and Factory Inspection Division of the Civil Aeronautics Administration, grew up in aviation. He taught himself flight engineering long before universities deemed the subject worthy of their curricula.

He was born in Elkhon, Ill., July 21, 1897. After graduation from high school in Washington, D. C., he entered the Field Artillery in World War I. His interest in aviation led him to becoming a Field Artillery Armored Observer with the rank of Second Lieutenant.

After the war, Dwyer migrated to Los Angeles where he established Dwyer Aircraft and Dwyer Flying Service, which he operated from 1922 to 1933. Here he learned flight engineering the hard way. Civilian plane models were practically nonexistent at those days, a fact which led Dwyer to build his own from parts of discarded military planes. These composite aircraft were designated the DY-1 and DY-2. In his experimentation, he designed the first all steel "V" type landing gear and the first all steel motor mount.

In addition to building aircraft, Dwyer test-flew a number of experimental planes, logged more than 5,000 hours as a pilot in student instruction, did motion picture stunt flying, and piloted racing aircraft.

He joined the CAA in 1933 as an aeronautical inspector, later becoming an engineering inspector in the Kansas City region. In 1936 he was made Coordinator of Engineering Inspection. He remained

chief of Engineering Inspection when it became a unit in 1939, a section in 1944, and a division in 1949.

While on the West Coast, Dwyer was active in aviation groups. He has been a governor of the Professional Pilots Association and a vice commander of the Aircraft Operators Association of California. He now lives with his wife and daughter in Alexandria, Va. According to his secretary, he is an avid golfer and an avid reader. He liked to take in the races.

TELLING THE WORLD

• **Boyle Perichair Corp., Leesville, Pa.**, has announced appointment of Lynn-Jelchman Advertising Agency, Wilkes-Barre, Pa., and New York, as advertising and merchandising counsel for his company. Tentative advertising plans include a list of sales and trade publications, according to Robert H. Marston, executive of Lynn-Jelchman, who is in charge of the account.

• **American Export Airlines** has announced that Robert E. Dumas, former assistant chief of flight operations, has joined its public relations department as editor of *Transatlantic Air News*, company publication. Dumas is assistant general manager of several years experience and is a member of the Aviation Writers' Association.

• **Ivan Baidet** has been appointed to supervise a passenger sales promotion program planned by Pan American Airways, New York. The program under general direction of Richard C. Lombardy, passenger and mail traffic manager, will pursue literature and information of aid to travel agents and sales offices.

• **U. S. Marine Corps** has announced that dealings with national inspection and book publishers will be carried out through the division of public relations in New York with Capt. Patrick O'Sullivan in charge of the newly established unit.

• **The story of the rise and rapid growth of Reynolds Metals Co.**, as told in a film, *A Series of Fails*, is the subject of a running narrative of the operations of the aluminum industry ranging from the mining of bauxite in Alabama to the actual delivery and use of aluminum.

• **The annual report of Pennsylvania-Central Airlines** has been devoted to recovery of a new award by the Federal World, a publication which annually selects the outstanding report issued by leading American business organizations.

• **American Pilot**, monthly magazine, will change its name to *Aerports* with the September issue.

AIRCRAFT PRODUCTION

Cost of DC-3 Reconversions Average from \$32,000 to \$40,000

Between 12,000 and 15,000 manhours reported required to restore planes returned by Army to airlines; shortage of parts and components, and engine inspection delay work.

Between 12,000 and 15,000 manhours appear to be about the average time necessary for conversion of DC-3s for airline use, with cost ranging from \$32,000 to \$40,000.

Reconversions are taking more than twice the manhours required for a normal 5,000-hour overhaul, and the only possibility of any great reduction appears to rest in the reconversion assembly line now getting under way at the Douglas Aircraft factory in Santa Monica. Previously reconversions were done by the airlines' own shops.

• **13 Planes Moved**—It remains a question whether the reconversions will get simpler or more complicated. Douglas has moved slowly in its own initial reconversions. The first such delivery has been made to Delta Air Lines.

Latest reports indicate 13 planes had been moved into the Douglas

plant and estimates in Washington were that most of the 166 additional planes to be returned to the airlines by fall would go through the Douglas plant rather than being reconverted in airline shops. The Delta plane at Santa Monica was followed on the line by a Cessna & Southern DC-3 and other planes from American, TWA and Northeast. Still others will be sent there if overhaul facilities of the various airlines reach a saturation point.

Several factors are operating against speedy reconversion of the DC-3s taken from the airlines and now being returned, and conversion of C-52s and C-47s.

• **Parts Shortage**—One is a shortage of parts and components, which still are tight, although no plane yet has been held out of service entirely by inability to get required materials. Another is that Pratt & Whitney is reported to be refusing

Water Wings

If any airline has a water-tight wing, it was over the airlines on a DC-3, Pennsylvania-Central Airlines would like to swap.

One difficulty in nature by the Army of planes to the airlines has cropped up in the fact that PCA, the only domestic airline with tailwings overwater routes—Cleveland-Detroit and Muskegon-Milwaukee—has been getting leaky planes without water-tight wings. The result has been a swapping job. American Airlines received one plane with a set of PCA's wings, while Delta found it had received one of PCA's planes. So PCA had to swap wings with American and Delta to get back their water-tight equipment.

to approve engines manufactured by licensees for use in the converted planes until the engines have been checked in the P & W factory. This entirely logical refusal is based on a P & W position that it must stand back of each engine bearing its name in airline service and that it cannot do this unless it is satisfied that the engine is completely up to P & W standards.

In some instances, it was pointed out, licensee manufacturers have been able to secure service approval of modifications in the



Douglas Reconversion "Assembly Line": With new conversion on the background and aircraft overhaul overhead, DC-3s are being converted from military use to civilian with "assembly line" technique at Douglas Aircraft's Santa Monica plant. Photos show stripping before installation of seats, sound-proofing and other airline accommodations, and a Delta Air Lines plane

heading the line. Douglas estimates few to six weeks for conversion. The time will be less as the Army turns back additional shops and production equipment is installed to handle them. Where former strikers are lost or reconversion is impractical, newer C-47s will replace them for adaptation to civilian use.

enginees not approved by the original designer. Wright Aircrafts on the other hand, is reported to be approving engine installation only provided that engines are thoroughly checked and overhauled in situ or other adequate facilities. Another difficulty lies in obtaining use of sufficient workers from war production, although at the moment this does not appear to be too serious a factor.

C-42's Modified—Some of the newer C-42's have been given to airlines, it was learned, and these are now going through the modification process for airline use. Neither the C-53 nor the C-47 yet has CAA airworthiness certificates, although this is not expected to be a major problem when complete conversions have been made. The C-53 conversions are not difficult, since they are the first, slightly revised versions of the DC-3 manufactured for military use. The principal change was in the installation of a slightly larger door. With the C-47, the problem will be considerably more difficult.

In this version, the larger cargo door was installed and the door changed to a crisscross construction for easier cargo loading. Other changes also will complicate the problem. However, Douglas now is understood to be engineering these changes and probably will be ready with a modified assembly line procedure when the Army begins receiving them.

Parts Are Time Factor—Illustrating the difficulty in obtaining

parts, Pennsylvania-Central Airlines completed its first conversion job in 15 days, the second in 25, the third in the record time of 15 days. But on the fourth plane, the time jumped to 45 days, according to reports, because of the difficulty experienced in obtaining conversion components. Two other planes moved through PCA shops are reported to be moving at a faster pace, but it may be expected at any time that return of planes to service may be delayed by the parts and components difficulties.

Northwest, with considerable experience in modification work through operation of a large modification center for the Army, reportedly is moving reconversion jobs through in 30 days. Douglas now is estimating from four to six weeks for delivery of the reconversion jobs.

Most airlines feel that the time can be reduced as experience is gained, but it does not appear probable that the numbers can be brought below 12,000 hours or the cost below \$32,000.

When the Army converted the planes, it developed them of all wire interior fittings and passenger accommodations. One particular difficulty reported by the airlines in reconverting is that the seats originally removed either have been scrapped or used on other planes and have not been available for return with the planes. The Army installed solid plywood doors fitted for cargo tie-downs and utilized bucket seats arranged along the



NEW RADIO MAST:

The new type portable radio mast was developed by Fluor Steel Construction Co., of Elizabeth, N. J., which claims for it a specially made carrying space and speed and simplicity in erection. A 38-foot model is pictured.

sides to accommodate personnel. Installation Changes—Reconversion requires removal of these Army installations, shifting or installation of bulkheads, installation of light-weight flooring, adjustments to heating and ventilating systems, installation of new window panels to replace the plateglass Army windows, replacing of seats, handrails, interior lighting and insulation and soundproofing.

The trend will be toward greater standardization of interiors in contrast with the wide variety of interiors and interior arrangements used by airlines in the original versions.

Plane Distributors

A nationwide warehousing and distributing organization to be known as Chrysler Distributors, Ltd., and headed by Norman F. Claycomb, Chicago manufacturer of aircraft engine piston equipment, was announced last week.

The new organization, the announcement said, will offer a complete engineering, merchandising and sales service with warehouses at strategic centers for distribution of aircraft products.

Data Listed to Standardize Catalogs

Purpose outline of organization and subject matter desired by members following survey.

National Aircraft Standards Committee has made a survey of existing catalogs and prepared an outline of the organization and subject matter members want in vendors' catalogs.

Necessary requirements are listed as:

- ▶ Parts should be identified by name and number.
- ▶ Catalogs should carry the date of release. In the case of loose leaf catalogs, the date of the latest page revision should be carried on each page.
- ▶ Sufficient information to allow practical application of the part should be shown, such as envelope size, tolerances, location and use of electric, hydraulic, pneumatic, or other connections.
- ▶ Changed parts should be given new numbers or dash numbers unless dimensionally and functionally interchangeable.
- ▶ Maximum strength or capacity of parts should be specified.
- ▶ Type and specification number of the material from which the part is fabricated should be shown.
- ▶ Government drawing or specification numbers to which the part may be manufactured should also be noted when applicable.
- ▶ Method of interpreting coded part numbers should be specified.
- ▶ All pages should be numbered.
- ▶ Parts having general government approval for use on aircraft should be specified.
- ▶ Information regarding the proper method of ordering should be included when necessary.
- ▶ The accurate actual weight of all parts should be shown. If at any time the calculated weight is used in lieu of the actual weight it should be so specified.
- ▶ Desirable requirements are listed as:

- ▶ Catalogs should have an identifying number.
- ▶ Special tools necessary to install parts should be listed.
- ▶ Related drawings giving more detailed information should be referenced when available.
- ▶ Catalogs should be approximately 1 1/2 by 11 inches in size to facilitate filing.
- ▶ Further information relative to the cataloging standards sought by the aircraft manufacturing in-



PARTS STORE IN OPERATION:

With an eye to preclude distribution of pieces and parts, the American Aviation Mart (AVIATION NEWS, June 14, Page 53) has opened in Chicago in the Furniture Mart to satisfy the growing needs of private flyers. Sales are made in lots of not less than \$250. Photo shows salesman Michael Welch in front of a display board.

dustry can be obtained from G. M. Aron, standards engineer of Northrop Aircraft Inc., Hawthorne, Cal.

Adel Corp. Names Canadian Agents

Adel Precision Products Corp., of Burbank, Calif., has named Canadian Railway & Power Engineering Corp., Ltd., as its exclusive Canadian representative. Ray Ellwood, Adel president, says the Canadian agency will handle all future integration in industry products of Adel as well as the firm's current production of 300 types of hydraulic and hydro-electric valves and 12,000 types and sizes of line supports.

Units in 9 Cities—Wide coverage of the Canadian market will be facilitated by offices and warehouses in nine principal cities.

Cornell Order Filled

Fleet Aircraft Ltd., of Port Hope, Ont., has completed its production of the Fairchild Cornell trainer and is again manufacturing wings for the Lancaster bomber, it has been learned. The changeover in the schedule resulted in transfer for 35 percent of the factory staff from one type of job to another.

Civilian Workers Fear Vet Replacement

Aircraft plants are employing thousands of discharged servicemen, and more thousands are coming. Such is the political and sentimental pressure behind these men for employment in their old jobs, in accordance with the Government's promise that many duration civilians are beginning to worry about being displaced. In fact many, to safeguard themselves, are going to other jobs in which military men have no claim.

Production Affected—These anxieties, and morale lowered by uncertainty, are damaging aircraft and other production. Right now, aircraft builders are taking nearly all men offered them, from whatever source. But they are turning down some for lack of qualification and such rejections will increase rapidly with inevitable application.

Employers say that, as manpower regulations and laws now stand, they can exercise free selection as between civilians at work and applying for jobs, and returning service men making application. But they realize that the political power of the veterans could bring a "must" order, and they fear the effect on efficiency.



NEWLY-DEVELOPED WRIGHT FIN:

Greater horsepower output and saving of 24,000,000 pounds of alloy steel are claimed for the new aluminum fin designed by Wright Aircraft Corp. in cooperation with Bendis Manufacturing Co. The barrel on the right has 66 aluminum fins attached to the steel wall of the cylinder barrel, the one on the left 40 fins about twice the barrel wall. The aluminum fins are credited with giving about twice the cooling area of the steel fins. Weight of the engine is reduced one pound per cylinder.

Underlying Strength in Aircrafts Indicated in D-Day Performance

Failure of aviation stocks to collapse following invasion may give picture of better market than generally forecast.

Aircraft shares, the worst market performer throughout the entire war period, did not collapse following D-Day, as many observers expected. While the group did not participate in the general appreciation experienced by other industrials, there are unmistakable signs of underlying strength which may soon afford greater prominence.

The unfavorable aspects of the aircraft industry have long been discounted and market levels adjusted by power-conscious investors so that no further price declines are feared.

► **War Gains Discounted**—It is ironic that the aircraft industry which occupies top place in our war production effort and which is mainly responsible for success in battle thus far, has fared so poorly marketwise. It is an outstanding characteristic of the market, however, which has steadily refused to recognize war-inflated gains so matter where found.

Shortly after the outbreak of war in Europe, in late 1939, a bear market set in for the entire industrial list. Investor sentiment viewed war prosperity as temporary with no lasting benefits. The market started on their downward spiral at that time. During 1942 and 1943, the general market staged consistent rallies and managed higher price levels. Not the aurocrats—they kept right on declining.

► **Upturn**—An analysis disclosed that aircraft shares as a group made their lows for the four-year period during late November as early December of 1993. Significantly, a gradual upturn set in since that time with new highs for the earliest move made in late February of this year. Lows for 1995 were generally made shortly after D-Day. However, it is particularly noteworthy that, as a group, the lows made this year were considerably higher than the low points reached in late 1993. To make the

techniques that is a most heartening indication of inherent strength. And should the aircraft now rise above their highs established in February of this year, an unquestionable bullish pattern would be in the making. The accompanying table reveals pertinent market data for the individual strength sections and serves as a basis for the conclusions advanced.

► Rendis—Gross movements are frequently misleading as they tend to cover many outstanding individual situations. For example, Rendis Aviation Corp., which has been closely identified with the aircraft industry, has shown remarkable market strength. The stock is not only selling higher than its high established early this year, but has also topped its peak of 1943. This performance may be attributed to the nature of the company's operations. Now an active producer of aircraft parts, Rendis does not have the same complications confronting the old-line aircraft producers.

March 31, 1995 is compared with \$3.87 for the like period the previous year. Capital conservation, however, will most likely hold dividends down to the 78-cent quarterly rate paid thus far this year. It is small wonder, on the basis of present earning power and future prospects in the reversion to come, that Bendix has been able to do so well marketwise.

► **Sperry**—Sperry, which in many respects, has similar characteristics to Bendis, has also shown significant market resiliency and has since passed its 1943 peak. This company, while popularly identified as an aircraft unit, has had the bulk of its operations in other directions. For example, its main activity is in the field of naval devices and installations. In the post-war period, the company expects to be quite a factor in hydrology. As its naval business is also of a war-inflated nature, the company's equity has not done as well as that of Bendis—but certainly has performed much better than pure aircraft shares.

MARKET ACTION

Leading Aircraft Equates

[illegible]

The carry-back provisions of the revenue tax law provide a potent cushion against declining earnings which should stave off immediate deterioration of aircraft financial resources. These elements, in effect, have a tendency to minimize the risk present in aircraft shares at current levels. The big factor lacking, however, is the public glamour and popular support which is so necessary to give impetus to rising market values.

WPB Revises Rating On Plane Supplies

Aviation concerns ranged exclusively in crop dusting, seeding and spraying, and members of the Civil Air Patrol, which participates in target towing and other military projects, were assigned AA-1 ratings for maintenance, repair and operating supplies by the War Production Board. The returns previously were lower.

Other Ratings Changed—Included in the new assignment are air patrol, survey, and fire protection services operated by the Forest Service, Department of Agriculture; the air services operated by or for police and law-enforcement agencies; and the Bureau of Entomology and Plant Quarantine, Department of Agriculture.

The Board said that, under the new amendment, AA-3 ratings are to be assigned to air services operated by or for governmental agencies, except as otherwise rated.

Warner Salaries

W. O. Warner, president and general manager of Warner Aircraft Corp., was paid \$24,000 during the fiscal year ended Dec. 31, 1943, according to the company's annual report to the Securities and Exchange Commission.

Other salaries paid in that year included \$14,400 to L. A. Magnan, vice-president and chief engineer; \$12,000 to L. A. Fawcett, vice-president and sales manager; and \$12,000 to W. J. Jarvis, secretary and treasurer.

Financial Reports

Republic Aviation Corp. reported net operating profit of \$10,660,930 for the six months period ending June 30. After federal taxes amounting to \$1,623,083 and reserve for post-war readjustment and contingencies of \$269,703 amount earned to earned surplus.

is \$1,508,176, equal to \$1.84 a share on 822,606 common. These figures are before reorganization and sub-

Net sales for the first half of the 1946 fiscal year were \$219,197,334



INSIGNIA OF AIR FORCES

Official insignia of the newest and longest-reaching arm of the U. S. Army Air Force, the 91st, is shown here, with those of the other Air units. The insignia, worn as a shoulder patch by officers and men, symbolizes the globe-girdling range of the B-29 Superfortress. It consists of a disc of white-marine blue, marked with white lines of latitude and longitude. The unit's star has a red disc center, surrounded by a gold annulet and an gold wreath.



As potent a force in peace as it is in war.....

The speed and efficiency of military air transport on all points on the globe is an established fact. And it has set the pattern of post-war travel.

The aircraft in service on these routes, the pilots and ground crews who are doing this pioneering deserve credit for the successful functioning of today's world-wide air transportation. But there's one other item of equipment that has contributed tremendously to these successes...the electronic vacuum tube.

Electronic vacuum tubes are the very heart of radio beacons, communications, instrument landing and other new and ancient aeronautical electronic devices. These are the things which have made air travel safe and efficient...helped man conquer the air.

At this field Eimac tubes are the leaders. Their pro-

ductivity, unammuted acceptance and continued use by the major airlines throughout the world is proof of this fact. Years of practical experience in the field, years of successful performance in aviation have made Eimac tubes first choice of the leading engineers throughout the world.

Follow the leaders to

Eimac
TUBES



EIMAC-MACALLISTER, INC.—SAN BRUNO, CALIF.
Plants located at San Bruno, California
and Salt Lake City, Utah

Export Agents:
FEARAR & HANSEN, Inc. City Center
San Francisco, California, U.S.A.

PRIVATE FLYING

Culver's New Victory Model Puts Firm in Good Post-War Position

Average of 100 inquiries a day received on strength of performance record of company's pre-war aircraft; retractable landing gear and wing efficiency stressed.

By BLAINE STURGEFIELD

About 25,000 inquiries have been received by Culver Aircraft Corp., according to the manufacturer, on post-war deliveries of its two-place Victory model monoplane with retractable landing gear.

If all biplane business were graded according to their degree of optimism on the early post-war market, Culver would stand at or near the top. The company believes the immediate problem will be to produce enough planes to meet the demand.

100 Inquiries a Day—Chief reason for the inquiries, which lately are reported coming in at an average rate of 100 per day, undoubtedly is the remarkable performance data on the pre-war model. These data, quoted in the accompanying box, are on the LCA and LFA, with Continental and Franklin engines, respectively. Prospective purchasers, of course, expect even better performance of the Victory model.

Culver works toward utility as the main characteristic of a personal airplane, and company aim is to put five ingredients into this utility formula: (1) The plane must be clean; (2) safer than ever; (3) more economical; (4) faster; and (5) more convenient. That's the blueprint of the pre-war Culver, and also of the forthcoming Victory model—about which the company will give very few details as yet.

Quality Plane—What they do say is that the new design will have conventional flight and control characteristics; that it will be a quality plane—using expensive materials and workmanship, with as attempt to get into the lowest price brackets. Every effort will be made, however, to hold the post-war price as much below \$2,000 as possible. They hope it will be less than \$2,500. Pre-war price

for the LFA was \$2,000, and \$2,295 for the LCA. The \$295 difference was not in the engine, model LFA had a starter and generator.

Prices of post-war planes, Culver and most other manufacturers contend, will be increased by higher labor and materials costs. This can be partly offset by higher production efficiency developed out of war experience. But new efficiency cannot wholly offset high costs except in volume production. Generally speaking, labor costs have gone up from minimums of 40 and 50 cents before the war to minimums of 80 cents and one dollar now. How long they will stay there, no one can say.

Making Army Planes—Culver is exclusively engaged in producing specially equipped planes in volume for the Army and Navy, and has been able to increase its efficiency so that one worker now produces more in a day than he formerly did in a week. Company hopes that this performance can be transferred in part to its civilian operations.

Before the war Culver was producing a maximum of ten Cadets



Culver "Cadet." This pre-war plane is said to be a rough approximation of what the new Victory model will look like. The Victory model, incorporating numerous design changes, is expected to exceed the high performance standards of the Cadet.



Charles Yankech, president of Culver, and (right) T. H. Stouring Woodbury, vice-president.

a week. The rate after the war can be many times that rate, probably in the same plant, without expansion. The plant and most facilities belong entirely to the company.

Design Changes—Officials told the writer during conferences at the plant at Wichita that they now have war contracts which would occupy these facilities through 1945 if hostilities continue. They already have completed three design changes in their war product and are about to begin a fourth change. The company was in a position to accept large sub-contracts, which would have meant expansion and probably the building of government-owned facilities for its use, but spokesmen said the management preferred to stick by their contracted line of operations.

Culver engineers say the unusual performance of their plane is due mainly to the retractable landing gear, and to the efficiency of their wing, which is exclusively credited to Al Mooney, chief designer. They say their method of making the landing gear has been improved and the cost greatly reduced.

History—Culver was organized in 1939 by R. H. Culver, at Columbus, Ohio. Its first output was about 50 Dart planes. Production

Calver Victory Performance Data

	LCA	LFA
Cruising speed	130 mph	136 mph
Maximum speed	140 mph	146 mph
Landing speed	45 mph	46 mph
Climb at sea level	900 fpm	936 fpm
Service ceiling	17,260 feet	17,500 feet
Fuel capacity	36 gals	36 gals
Fuel, gal per hour	5.8	5.8
Normal cruising range	480 mi	480 miles
Gross weight	3,065 lbs.	3,095 lbs.
Useful load	555 lbs. max.	437 lbs.
Max. wing loading	16.6 lb. sq. ft.	16.6 lb. sq. ft.
Power loading	17.49 lbs.	16.31 lbs.

Al Messer, Calver chief designer, and (right) Charles Jamison, chief engineer

of Calvers was started in 1948. After about 35 Calvers were delivered, the company moved to Wichita.

In early 1948, a controlling interest in it was purchased by Charles G. Yonkey and Walter H.

Grid Marking

Proposed grid-pattern markings of the U. S. for production of non-professional flyers in an idea of merit but no problems are difficult. John E. P. Morrison, manager of the National Aircraft Council of Aeronautical Chamber of Commerce, before the NAA said airport conference, even impossibility of marking off ten-mile squares with white lines, or at marking the correct, because ground marking of about any size is difficult to use and the plot is well over it. The speaker said a lot of pilot might be well mark for his destination as one of the proposed markings.

It would be feasible, though, Mr. Morrison said, to mark off the country in a grid pattern, not establishing new lines, but dividing the existing latitude and longitude pattern into smaller sections. On that basis, a fair coordinate map of the United States would be published. With reference to the map, any general location in the country could be given as "air address" in letters, digits, and decimals, easily located on the map.

The speaker proposed that all or many of the landmarks usually followed by contact flyers, such as towns, highways, rivers, mountains, coastlines, river junctions and so on, be plainly marked with the coordinate air address, and the direction to the point, which need only look at his map, available to, and know exactly where he is. There appeared to be no disagreement with Mr. Morrison's conclusions.

Parks Air College Opens K. C. Agency

Plies Chicago, Indianapolis and other branches for sale of E-roscopes in expanded post-war operations.

Parks Air College has opened a branch at Kansas City as one of its first steps in a contemplated plan of expansion for aircraft demonstration and sales purposes. While negotiating for a private airport of its own, its office is at the Kansas City Airport.

Parks has become the distributor for the E-roscope in the Middle West and parts of the South. Thomas E. Beck, president of E-roscope Publishing Corp., stated publicly in Kansas City recently that Parks had taken orders for more than 1,200 E-roscopes for post-war delivery.

Other Agencies — Meanwhile, the company plans other branches at Chicago, Indianapolis and Tuscaloosa, Ala. Frank Struff, former manager of the now discontinued Parks plant at Jackson, Miss., is now at the Kansas City unit. Jack Nichols is chief pilot for the new Kansas City base.

Main purpose of the expansion move is the distribution of the E-roscope. Parks is demonstrating the plane and giving flying time to prominent citizens.

At Kansas City, for instance, director of public works Kenneth K. Kirt is being flown with Parks and the E-roscope. So is City Manager E. P. Cookington and many other well known Kansas Cityans.

Instruction—Parks plans little

actual E-roscope flight instruction at Kansas City. Most of it will be carried on at its main base at East St. Louis, Ill.

Struff, manager of the base, and Nichols, the base pilot, currently comprise the Kansas City personnel, along with a mechanic, secretary and stenographer. However, the company contemplates expansion to a far larger staff upon acquisition of its own Kansas City airport.

Parks is distributor for E-roscopes in Missouri, Kansas, Iowa, Nebraska, Illinois, Indiana, Minnesota and Alabama. Parks also will handle E-roscopes.

The company has acquired another airport in the St. Louis area and also has purchased an air base at Indianapolis. Negotiations are reported to be under way for an airport at Chicago. The company owns a field at Tuscaloosa, Ala., but the Army is continuing its use of that tract.

New Plane Compass Made of Plastics

New developments in plastics will permit incorporation of new features in popular-priced aircraft compasses, the Sherrill Research Corp. of Peru, Ind., claims in announcing that a new liquid-type plastic compass would be offered the private flyer in the post-war market.

The new Sherrill compass will be light in weight without sacrifice of sturdiness in years of service, according to D. R. Sherrill, president of the company, which is now producing precision compasses made largely of plastics for the post-war market. Sherrill said he envisaged a greatly expanded interest in popular price direction finding equipment for the private flyer.

At Kansas City, for instance, director of public works Kenneth K. Kirt is being flown with Parks and the E-roscope. So is City Manager E. P. Cookington and many other well known Kansas Cityans.

Instruction—Parks plans little

TRANSPORT

Progress of Air Mission to Spain Rouses Optimism in Washington

Ryan returns to U. S. after "busy trip"; Stinson and Novinger to stay two weeks longer to study landing facilities; Madrid reported friendly and cooperative.

By MERLIN MICKEL

Washington aviation circles are optimistic over reports concerning the latest mission sent to Madrid by the State Department after an "agreement in principle" was reached between the government of this Nation and that of Spain.

The delegation consisted of Oswald Ryan, Civil Aeronautics Board member, Charles I. Stinson, Civil Aeronautics Administrator, and Fred H. Novinger, chief of the New York region of CAA's Air Courier Inspection Division.

Inspect Landing Facilities—Although Ryan has returned, while Stinson and Novinger remain for another fortnight to make technical inspection of landing facilities in Spain, presumably the report of all three will be made to the State Department. The Board member's

comment was that he "had a busy trip." He was gone two weeks.

Despite official reluctance to discuss details, however, there are substantial indications that Spain's attitude of complete friendliness placed full information on her air facilities at the mission's disposal, both generally and technically. The Spanish Air Ministry made a plane available in which the envoys visited facilities they wished to use in person.

Spain has made good progress in domestic aviation as to airports, landing facilities, airways and equipment. The operator has own work, from which German interests have been excluded.

"Agreement in principle" that exists merely establishes the willingness of Spain to permit U. S. car-

Ocean Records

Overseas flying time in emergency constant reduction.

Early in July an American Export Airlines pilot flew the 3,675 miles from Havana, Mex., to New York in 16 hours, 36 minutes on a scheduled flight, bettering the old record, also claimed by American Export, by 37 minutes. The month had a week to go when another American Export pilot, Capt. Edward A. Stewart, announced he had made the flight in 15 hours, 37 minutes.

A Corsair-built Lancaster of the Royal Air Force Transport Command established a record for a non-stop distance flight of 3,600 miles from Nansha, Bahamas, to Dorset Airport, England, in 2 hours, 35 minutes. The craft flew according to flight plan over the North American continent, within normal long-range cruising speed.

Air Transport Command reports a C-54 flew 3,000 miles non-stop from London to Washington in 18 hours.

ries to enter its borders, and in only preliminary is the completed details of complete agreement on such matters as landing rights, use of facilities, and similar problems.

The very last that Ryan and his



SOUTH CAROLINA HOLDS FIRST AIR FORUM:

First South Carolina Air Forum was held at Charleston, under sponsorship of the City of Charleston, its Chamber of Commerce, and the South Carolina Aeronautics Commission. Airline representatives shown in the picture are left to right, standing, Mildred S. Davis, Southeastern Air Express; E. S. Solley,

Colonial Air Lines; Robert F. Nelson, States Air Lines; Vic Little, Delta Air Lines; George Gardner, Pan-American Airways; seated, H. C. Abing, Colonial Air Lines; Maurice Leitchford, Eastern Air Lines; MacDonnell Bryan, National Airlines; and R. Stanley Webster, Delta Air Lines.

colleagues visited Spain leads to the conclusion, nevertheless, that proposed reunion to that country will be among the earliest to which the Board will give consideration in its deliberations on overseas route applications.

Spain's Air Minded—There is intense interest in aviation among Spaniards, particularly an official circle, an interest that extends to its international aspects as well as its domestic.

This interest is shared by the Portuguese who, it is assumed, are watching closely negotiations between that country and Spain. The country's competitive relationship between Spain and Portugal holds that arrangements with one may bring parallel dealings with the other.

May Supercede FAA Accord—This is a circumstance conceivably could lead to a reworking of the situation that finds Pan American Airways with individual landing rights in Portugal, in favor of one whereby the State Department might procure similar rights for itself. The first six months of the year saw more than 1,700 shipments a day go through LaGuardia's air express office to reach a total for the half-year period of 326,476 shipments, a 23 percent gain over the 268,528 in the first half of 1943. Gross revenue was also higher, by 18.2 percent.

Air Express—Air express handled at LaGuardia in June was 22.4 percent above June last year.

LaGuardia Field Key To Atlantic Airways

More than 500 trans-ocean cargo and passenger planes cleared at New York airport in a recent month.

Newly disclosed figures on operations at LaGuardia Field, New York, emphasize its place in the aviation era as a key gateway to trans-Atlantic destinations.

Within one recent month, it saw may be revealed, more than 500 trans-Atlantic crossings were made by cargo and passenger planes between New York, the United Kingdom and Africa.

During that same month, Air Transport Command handled at LaGuardia more than 4,500 war-imperial passengers and more than 3,500,000 pounds of cargo.

1943 Record Cited—These facts added to the field's 1943 record, have led Brig. Gen. Lawrence O. Fritz, commanding officer of the New Atlantic Wing of AEC, to comment that LaGuardia Field has attained a position in trans-

Live Crabs by Air

Believed to be the first one-stop shipment of seafood by air, Chesapeake Bay live crabs shipped from Washington early one day last week arrived alive in Los Angeles late the same day aboard American Airlines' Douglas Skyliner. They were shipped in a thin wicker wire-mesh box, and served at a hotel luncheon given by A. R. Rice, Jr., American's western traffic manager.

During 1943, 18,426,746 pounds of seafood and 4,894,746 pounds of air express—in more than 15 million shipments—were handled through the airport. Comparative figures announced by Railway Express Agency reflect air express record. The first six months of the year saw more than 1,700 shipments a day go through LaGuardia's air express office to reach a total for the half-year period of 326,476 shipments, a 23 percent gain over the 268,528 in the first half of 1943. Gross revenue was also higher, by 18.2 percent.

Air Express—Air express handled at LaGuardia in June was 22.4 percent above June last year.

amounting to 31,250 compared with 43,184, while gross revenue exceeding \$108,000 was 25.1 higher than that for June, 1943.

The field experienced its peak year in 1941 when it handled 199,460 incoming and outgoing aircraft. On a few occasions, there were more than 400 planes a day, the busiest being April 23, when there were 494 arrivals and departures. The year saw 44,318 airline revenue flights with an average of 28 passengers each, or a total of 944,000 passengers carried.

1944 Peak Forecast—Already in 1944 the 400-per-day mark has been exceeded numerous times—16 in the first four months. In January there were 7,700 arrivals and departures, in February 8,268, in March 8,144, and in April 8,973. Of the 24,200 arrivals and departures for those months, 14,900 were air carrier operations. Projected for the year, this would mean 102,600 arrivals and departures in 1944, or only 471 fewer than the 1943 peak, and an increase of 49,900 over carrier operations in 1944, or 1,312 fewer than in 1941.

The field's lowest traffic day this year was March 24, when weather during most of the afternoon, snow and rain, a high wind, ceiling less than 1,000 feet almost all day, and visibility less than 3 miles all but a few of the 24 hours. Traffic for the day consisted of one lone United Aircraft.

Fifteen days before, on a Sunday, was this year's busiest day, with 454 operations to be the busiest day in 1943.

Canada Warns Vets On Used Warplanes

Canada has advised its returning war veterans in the air force not to buy used military aircraft for use in starting commercial air routes.

In answer to a question during debate on the Aeronautics Act whether used aircraft would be made available to returning air force men to use during the war, C. D. Howe, Minister of Supply, said it would be "unwise" for them to buy such craft.

Commercial Planes Preferred—While Canada is selling used military aircraft, it is not recommending that veterans should buy them. Howe stated that the veterans would be wiser to buy suitable commercial planes built for the purpose.

The new Air Transport Board could recommend to the government assistance in any airline with operating subsidies, a method under which the government could help finance returning veterans in the establishment of feeder line service. But, Howe warned, such capital assistance could not be expected by the veterans as a matter of right.

Canada Act Revised

The new Canadian Aeronautics Act setting up an Air Transport Board gives the Board the power to fix maximum hours of work for pilots and co-pilots. The authority was granted through amendments during the bill's third reading and discussion in the House of Commons this month.

The discussion dealt mainly with rights of appeal and extent of authority of the Minister of Transport. Right of appeal to the Supreme Court of Canada on questions of jurisdiction or law or both was finally included, but the government debated attempts to limit the Minister's power, saying authority was necessary for full efficiency of operations.

Dallas Bond Sale

A second bond sale of \$1,000,000 is planned by Dallas, Texas, for expansion of aviation facilities. Nearly all the first million of a



CONSAIRWAY LIBERATOR SETS RECORD

This specially retooled Consolidated Liberator transport, different from the usual Liberator and C-47 in its nose and ports, is reported by Consa Airways to have logged 6,032 hours, and flown an estimated 1,521,144 miles in passenger and cargo service. Consa Airways, which operates an Air Transport Command service between California and Australia, reports that seven other of its Liberators are million-mileers, with logs showing more than 5,000 flying hours each.

\$2,000,000 bond issue approved by Dallas voters last year has been spent on improvements to Love Field. Of the initial authorization, \$100,000 was spent for land for a new field for private flyers.

Air Priorities Curbed in Mexico

Airline flights plane moved to persons on official business.

Mexico's restriction of air travel priorities to persons on official business will mean suspension of those formerly given private business, but flights within the country, according to the office of Coordinator of Inter-American Affairs. The restriction was announced by the Mexican Communications Ministry.

CIAA reported that undisturbed route mileage of Mexico's 12 passenger-carrying lines was increased 2,250 miles during the year ended in March, 1944, an increase of more than 10 percent over the 18,875 in March, 1943.

Port Work—Airport development also is being pushed, with the critical work at Mexico City being enlarged to almost twice that of LaGuardia Field, New York. A new port at Nuevo Laredo, just across the border from Laredo, Tex., also is being built.

Two U. S. flag carriers in Mexico are Pan American Airways, with 1,748 unduplicated route miles, and American Airlines, with 1,321. BOAC Airways has a permit from the Mexican Government for an international operation through Mexico.

Barnes Heads CAB's Economic Bureau

Irvin Barnes, 40, an economist in the anti-trust division of the Department of Justice, where he has worked since 1940 will head the Civil Aeronautics Board's Economic Bureau starting on his new duties about Aug. 15. He will succeed Raymond W. Strough. A graduate of Yale, ex-



Irvin B. Barnes

Ph.D. in economics, Barnes taught that subject there. He has written books and contributed to legal and professional journals on economics and utility problems.

The new director will be assisted, as was Strough, by Russell B. Adams, assistant director. Strough, now special assistant to the Board, and his staff are in Alaska, where they are opening CAB's new territory office.



PANAGRA ENLARGES DC-3 HATCH

Panagra has built on 50x90-inch hatch in one of its DC-3's to accommodate bulk shipments on South American routes. Picture shows how hatch is located to prevent interference with regular door and wireless when not in use. When closed it is bolted so fuselage is not weakened. Panagra says the new hatch, which it believes is the largest of its kind ever cut into a DC-3, has been approved by Civil Aeronautics Administration.

Feeder Report Falls To Deter Applicants

Realistic CAB opinion regarded generally as applied chiefly to other fellow.

By DANIEL S. WENTZ II

Civil Aeronautics Board's opinion on the local-feeder-pickup air service investigation did not dampen enthusiasm of most of the prospective operators of such services, even though the language employed was cautious to the point of pessimism. Most of them would-be airlines view the Board's opinion as "sound," but a majority seem to feel it applies chiefly to the other fellow. Thus it seems that the Board failed, in some ways, to accomplish its purpose. That purpose—and the language of the opinion makes it blantly obvious—was to lay bare the hard foundations of economic fact upon which any successful airline operation must rest. The Board hoped by so doing, to make it clear to the hundreds of applicants for routes that a mere desire to do so was not enough to support an airline operation.

► Retrocession—What the Board didn't point out was the fact that immediately after the war the Government probably will be required by public pressure to participate in the operation of the base with this strict economy in prospect, the Board cannot be expected to certificate many new operations dependent upon mail pay from the private treasury for their sustenance.

The nature of air carriers has occupied the Board increasingly in the past few years. A survey of its recent decisions shows conclusively that it is undesirable to lift the smaller carriers out of the "lost" class, thereby reducing the cost to the government. It does not seem at all likely that, hence, hardly finished raising a crop of youngsters, it will take many more under its wing.

► Safeguards—For this reason it established the "safeguards" under which it proposes to allow feeder operations. These are temporary (18 year) certificates, and authorization only of those operations which show a reasonable expectation of success. By these means, the CAB will insure against economic or continuing dependence upon the government.

This is far warring that the Federal



SPEEDS TICKET SALES:

Tests of a pressure rate ticket system in United Air Lines' Los Angeles office proved air value as a time-saver, and United is making installations in other traffic offices. Counter agents need money and airline's company by take to a general agent, who returns correct change in 20 seconds and customer burden of record keeping formerly done by ticket sales person.

Traffic cannot be expected to underwrite local airline operations in the founding of which enthusiasm has overwhelmed sound economics.

The Board said nothing at all on the question of route patterns, leaving that presumably to be decided in individual cases. That was a disappointment to many who looked to the Board for some protection in this problem. The "clover leaf," "vicinity route," and many other types of layout were considered at the hearings, and Executive William J. Madden and Albert F. Beitel discussed them in their report. It seems probable, however, that in view of the strict operating economies demanded by the Board, many feeder operations will be limited to point to point service rather than "clover leaf" or "vicinity" routes. Passengers certainly will not use a feeder airline whose roundabout routes consume more time than would their journey by surface means.

► Decline Cautious—The opinion was clear and to-the-point on surface operations in the airline field. The Board reaffirmed its established position that surface carriers shall be permitted under the Civil Aeronautics Act as it now stands to operate "only those limited air transport services which are necessary

and supplementary to other transport operations.

The words of the CAB on competition to be expected by feeder lines from surface transportation require no commentary. "In going into the small-city short-haul market, the airline will be faced with the most intense kind of competition, with its principal selling point, speed, greatly discounted in value."

► Caution—By the terms of the Act, the Board is charged with featuring the development of air transportation in all its phases. But this resolution is fully willing to authorize feeder line operations experimentally, to gather a body of fact and experience on which to base more lasting conclusions. It knows that every hastily undertaken airline operation which becomes bankrupt will affect the integrity of the industry as a whole and it has no intention of permitting this.

The Board's opinion probably will be construed as overcautious and unnecessarily pessimistic. It indicates, rather, that the CAB

Dependability

An air passenger or cargo plane on the ground being serviced and starting up. Emphasizing this fact, airline engineering personnel are calling more persistently for reliable and easy-to-maintain equipment.

One hard-headed practical airline research director says he expects in the near future an airline should be able to run from one overhaul period to the next without service other than gas and oil and check over.

Engine reliability already is approaching this point, he adds, and it now is necessary to "pull" a transport's engine between overhauls. Similar dependability will be required of maintenance testing systems, hydraulic systems, etc.

Importance of engine serviceability, and quick disassembly grows with the size of the engine and the number of cylinders. It will be much simpler to change one of the big radial engines of the future, and let the maintenance crew about as trouble in a big overhaul depot, than it will to keep the piston, grinder, and other trouble-shooters trying to find the cylinder that is misbehaving.

will not be high-pressure by excessive enthusiasm into accepting the responsibility for creating numerous small airlines of which a majority would wither and die.

Planes May Widen Publishing Markets

Speed expected to extend range of delivery and news coverage in post-war period.

One of the interesting results growing from the war-born development of air transport is the effect air shipment may have on newspapers, magazines and other publications. Both air cargo men and publishers have been devoting some time to exploring the aspects of this problem, and there seems to be definite interest among the publishers as to whether air transport may do for their business.

The airlines' chief commodity in time, which is also the controlling factor for newspapers and news magazines, whose value declines rapidly if timeliness of delivery is lost.

► High Rates Factor—On the other side of the ledger is the high air express rate which will keep printing matter in bulk off the planes for some time to come, chiefly because the higher per pound value of other commodities recommends them for air shipment in far greater degree. The recommendation of these two aspects, already being partly accomplished. Further improvements seem assured.

► Early Experiments—Newspapers in the United States, until the outbreak of war, experimented sporadically with planes. They used to obtain photographs rapidly from locations where news suddenly developed in countries and for advertising and press releases. Aerial delivery of newspapers by air was extremely restricted, and was possible only where the cost could be absorbed in publicity expenditures.

The Chicago Daily News used this method to deliver papers by air to Chicagoans vacationing in Wisconsin and nearby resorts.

The trans-Atlantic edition of the London Daily Mail is shipped on microfilm by air and printed in the U. S., but as yet is only a "goodwill gesture." Should the idea take hold, the publishers say they may attempt wider circulation.

► Time and "Newsweek"—In the magazine field, Time led the way,



AIRLINES USING ATC COMMANDOS

Some airlines are using C-47 Commandos equipped in their Air Transport Command operations. Picture shows one, with a crew of four, being used by Eastern Air Lines, which also has two others left for the ATC. Northwest Airlines is operating C-47s. Until recently Northwest Airlines had some on its ATC route, and up to now more than 100 Colonial Airlines and National Airlines license used them.

followed by Newsweek. The latter is distributed widely in Latin America by air express in special train paper editions. Pan American Airways carries these magazines at a special flat-charge rate. In other instances, planes are sent by air and printing is done in foreign countries. Usually production costs outweigh profit in this type of operation. "Pony editions" of Time and Newsweek travel by air as first-class mail, but again, mailing charges are almost prohibitively high.

Publishers of newspapers in the East are hoping to extend their distribution west by air shipment. It is possible that if some cut-rate air express charges were worked out, the domestic carriers, a sizable volume of business might result. Papers shipped in this way would, of course, have a limited audience, willing to pay the extra cost.

► Wider Markets—Feeder line operations probably will expand the spheres of influence of many smaller papers, expediting delivery over a wide area.

While numerous similar possibilities exist, it seems likely that the publishing industry, for some

time to come, will confine its use of air shipment to transportation of plates or parts to be used in decentralized printing of the publication in several widely scattered distribution points.

Name Royce Counsel For Policy Group

Airlines Committee announces acquisition of New York attorney and aviation enthusiast for special assignment.

Special counsel selected by the Airlines Committee for U. S. Air Policy to help spread the doctrine of regulatory competition in post-war international aviation is Alexander B. Royce, New York attorney and aviation devotee.

The committee took considerable pride in announcing acquisition of services from a man of the stature of the legal firm of Chadbourne, Wallace, Parke and Whynes, and recently has done considerable work of an international character.

► North Africa Job—In 1943 he was Director of wartime economic operations in North Africa, a job that took him to Algiers as representative of the State Department. For three or four months, that assignment he was in London on a tour of duty as an RFC subsidiary. In 1941 and 1942, Royce visited South America on three trips of two months each for Defense Supplies Corp., working with William M. Hadden, now Assistant Secretary of Commerce, in elimination of Axis interests from South American airlines.

Nothing in these government assignments, which involved leave of absence from his law practice, was connected with aviation. In particular, the work, however,

Chinese Edition

China's largest daily newspaper, the Kuang Pao (literally, "Big Public Paper") has an almost edition which is printed in Chungking and carried in India and other foreign countries over the "Hump." The air edition is a two-page sheet containing editorials, news reports and special sections from the Chungking edition.

More Air Attaches

WASHINGTON'S mounting conviction that commercial aviation will be one of the most potent instrumentalities of foreign policy is at the bottom of the State Department's decision to appoint civil air attaches in strategically located embassies throughout the world.

Some officials in the Department advocated this action as long ago as two years when it appeared that aviation was on the road to accomplishing in wartime what might otherwise have required a decade.

The point now has been reached where it is urgent from the standpoint of the embassies and desirable from the standpoint of national prestige to designate high-ranking air experts to represent the nation abroad.

Present plans call for civil air offices in the London, Rio de Janeiro, Ottawa, Mexico City, Cairo, and Lisbon-Madrid embassies. The latter two are included as one for purposes of aviation, the tentative plan being to appoint one official for both Lexington Butterfield, a career diplomat already has been appointed civil air attaché in London. Butterfield, a licensed private pilot, has specialized in aviation matters for the State Department for five years in both Washington and London. His new title merely formalizes his functions in London.

Indications are that civil air attaches will be given high rank in the embassies. Under direction of Ambassadors, they will handle all aviation matters affecting the United States in the country of their appointment.

They will do the spadework in negotiations for landing rights and in working out various agreements and conventions that will be reached with increasing frequency. They will aid aircraft manufacturers and producers of related equipment in locating markets for their products.

The attaches will keep Washington abreast of developments in the principal world aviation centers. There have been criticism lately that the embassies are deficient in understanding of the enormous importance of aviation to post-war America.

This is attributed partly to overwork in other fields and partly to Washington's failure to dispatch adequate information. Now, with specialists in the field, the State Department hopes to be kept current on traffic and market potentials, domestic air service, foreign competition and such matters in all important areas. Likewise the embassies will be informed of up-to-the-minute developments elsewhere.

There already is informed speculation that attaches may eventually be appointed in Franco, Russia, the Far East, Australia and perhaps one or two more Latin-American countries.

Finally, U. S. aviation is to be represented officially in the world's main capitals and the nation is to have a highly-knit information system by which it will keep track of significant developments affecting its international commercial operations.

Surplus and The Public

NOW THAT A VIRTUAL TRANSMITTAL of opinion has been translated into a policy for disposal of surplus aircraft, another major task has advanced to make certain that the nation understands the wisdom of the policies formulated after serious and intensive consideration by the Surplus Aircraft Advisory Subcommittee. Without a painstaking, lucid explanation of the general plan, and why it attained its present form, much of the earnest study and constructive thought that has gone into it will be wasted.

Industry has too often seen that policies carefully and conscientiously conceived and put into execution become worthless because of the failure to translate the policy into terms that the American people both understand and accept. Thus, heedless and unthinking criticism can divert a project initiated by wise policy into uncounted channels, resulting in the very evils which were to be avoided.

The task of education falls largely to the aircraft industry, but it is as important that the airlines join in. It is vital to the progress of both groups, and the nation, that the surplus problem be settled as quickly as possible with as little loss to the government, the taxpayers, industry and to technological progress that is the key to America's future security.

Americans are essentially thrifty. They are wasteful only in that the huge surpluses of nature make it possible for them to be wasteful in small things, when it appears more economic to waste than to save.

But the lesson of the last war taught that there will be a natural reaction toward what may seem petriod waste and destruction of unexpended units of war. A catchphrase that has gained great currency is that, inherently, war is wasteful. But tangible surplus disposal will come after the war, at a time when it will be more difficult for the public to face the fact that their wealth represented in the aircraft surplus is not being wasted, but disposed of in the manner thought out in advance by the best authorities as most desirable from the long-range view.

To convince the American people of the soundness of the aircraft surplus disposal policies will be a major public relations task. It should start at once.

ROBERT H. WOOD

FIGHTING EDGE

U. S. Army pilots have flown more Allison-powered fighter planes into battle than planes powered by any other engine.

★ Pilots like Allison reliability to get them and back—durability to stand up under severe fighting

hours—economy to extend range—smoothness

to reduce pilot fatigue. ★ This numerical

superiority and these Allison

qualities have

added much to

America's fighting edge.

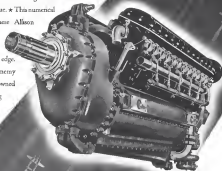
Thousands of enemy

planes have been downed

by pilots flying

Allison-powered

fighters.



POWERED BY ALLISON

P-40—Lightning
P-39—Corsair
P-40—Warhawk
A-24—Attack
P-51—Mustang
P-51—Mustang

Allison has directly furnished more than 100,000 engines for use in these planes.

LIQUID-COOLED AIRCRAFT ENGINES

Allison
DIVISION OF
GENERAL MOTORS

Indivisible, Indefinite

Every Sunday Afternoon
GENERAL MOTORS SYMPOSIUM OF THE AIR—NBC Network

**KEEP AMERICA STRONG
BUY MORE WAR BONDS**

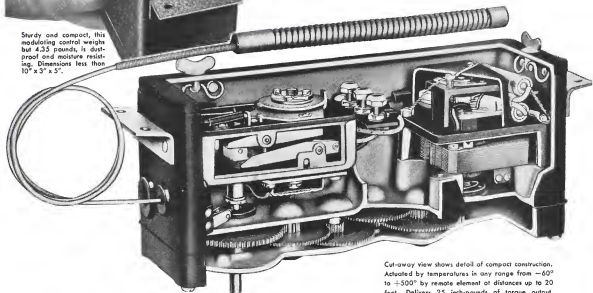
*for aircraft manufacturers
in need of equipment for*



REMOTE, AUTOMATIC CONTROL OF AIRCRAFT FLIGHT OPERATIONS



Sturdy and compact, this modulating control weighs but 4.35 pounds, is dust-proof and moisture resistant. Dimensions less than 10" x 3" x 5".



Cut-away view shows detail of compact construction. Actuated by temperatures in any range from -60° to $+500^{\circ}$ by remote element at distances up to 20 feet. Delivers 25 inch-pounds of torque output.

White-Rodgers automatic temperature modulating controls and Servo actuators for aircraft have been designed especially for the control of:

- CABIN TEMPERATURE
- ANTI-ICE TEMPERATURE
- CARBURETOR AIR TEMPERATURE
- CARBURETOR MIXTURE
- CARBURETOR THROTTLE

On request, engineering data will be sent to authorized manufacturers concerned with the above or similar applications.

"Make them More and More Automatic"

WHITE-RODGERS ELECTRIC CO.

SAINT LOUIS



Motorized temperature control with arm rotation adjustable within a range of from 30 to 120 degrees. Torque output up to 75 inch-pounds.



Modulating temperature control used for regulating carburetor air temperature.